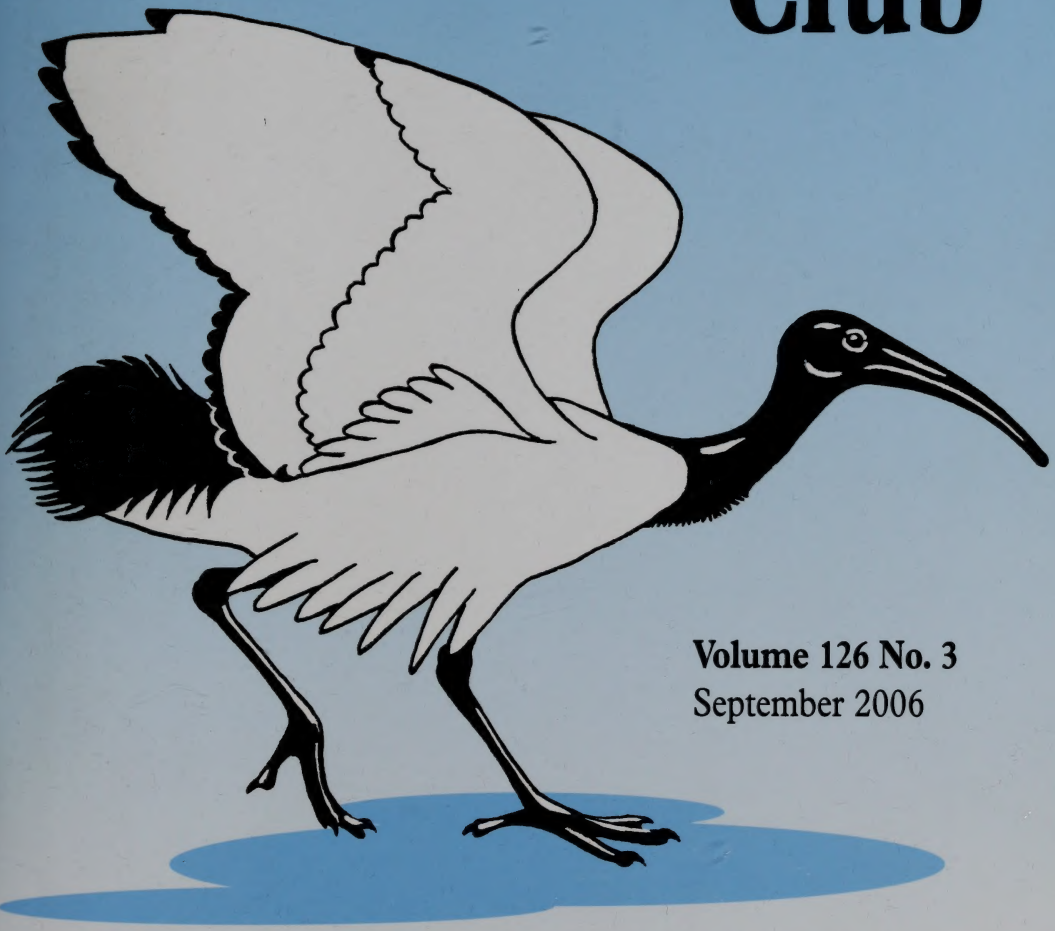
Bulletin of the British Ornithologists' Club



Volume 126 No. 3
September 2006

SHOUT
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MEETINGS are normally held in the **Sherfield Building** of **Imperial College**, South Kensington, London SW7. The nearest Tube station is at South Kensington; a map of the area will be sent to members, on request. (Limited car parking facilities can be reserved [at a special reduced charge of **£5.00**], on prior application to the Hon. Secretary.)
The cash bar is open from **6.15 pm**, and a buffet supper, of two courses followed by coffee, is served at **7.00 pm.** (A vegetarian menu can be arranged if ordered at the time of booking.) Informal talks are given on completion, commencing at about 8.00 pm.
Dinner charges are **£21.00** per person as from **1 January 2006.**

FORTHCOMING MEETINGS
See also BOC website: http://www.boc-online.org

26 September 2006—Please note that the proposed talk for this date (Lars Svensson—*The Almaty skin collection and the birds of Kazakhstan*) has been changed. A programme of two shorter talks will be given. *Bird flu and wild birds*—Chris Feare is a consultant ornithologist specialising in interactions between birds and man, including pest management and conservation. He is a Vice-President of the BOU and former editor of the Bulletin.
Great Salvage Island update: Cory's Shearwater—coincidence or recovery?—Since 2003, Alan Buckle has run a consultancy company to advise conservation agencies on planning, environmental risk analysis and implementation of island alien pest management strategies. He is chair of many industry committees in UK and Europe, including the British Pest Control Association's Technical Review Group, the Rodenticide Working and Data Development Groups of the European Chemical Industry Council and the Campaign for Responsible Rodenticide Use. Dr Buckle has produced many research papers and has co-authored a book entitled *Rodent pests and their control,* published by CAB International. He is Visiting Research Fellow at the Vertebrate Pests Unit, University of Reading.

Applications to. Hon. Secretary (address below) by ***17 September***

7 November 2006—Edward C. Dickinson—*Avian nomenclature and the ICZN Code: a layman's view.* Edward Dickinson is probably best known as the editor of *The Howard & Moore complete checklist of birds of the world,* third edition (2003). The talk will examine some of the ambiguities and difficulties that affect decisions on authorship and on the dating of bird names, and open up discussion of changes that are or may be under consideration.

Applications to. Hon. Secretary (address below) by ***24 October***

5 December 2006—Prof. Jeremy Greenwood—*The future of birds and man.* Jeremy Greenwood has been Director of the British Trust for Ornithology since 1988. He has worked on genetics, behaviour, ecology and biogeography of snails and various birds, particularly Guillemots *Uria aalge,* Snow Buntings *Plectrophenax nivalis* and Blue Tits *Parus caeruleus.* Starting from an ornithological base, Jeremy will consider the prospects facing mankind and the environment from the viewpoint of ecological science.

Applications to. Hon. Secretary (address below) by ***14 November***

Overseas Members visiting Britain are especially welcome at these meetings, and the Hon. Secretary would be very pleased to hear from anyone who can offer to talk to the Club giving as much advance notice as possible—please contact: S. A. H. (Tony) Statham, Ashlyns Lodge, Chesham Road, Berkhamsted, Herts. HP4 2ST, UK. Tel. 01442 876995 (or e-mail: boc.sec@bou.org.uk).

Registered Charity No. 279583

Bulletin of the BRITISH ORNITHOLOGISTS' CLUB

Vol. 126 No. 3 Published 5 September 2006

CLUB ANNOUNCEMENTS

Subscriptions Attention is drawn to the subscription changes on the inside back cover of this issue. There will no longer be a differential rate for members or non-members of the BOU. For 2007 (from 1 January) a single subscription rate of £20 per annum will apply and there will no longer be an option to pay in US$. A revised subscription rate will also be introduced for institutional subscribers from 1 January 2007 of £40 per annum, again without the US$ option.

Programme change Members are again reminded that the programme for Tuesday 26 September has been changed to two shorter talks as described on the inside front cover of this issue.

A vision for the future As announced at the AGM on 25 April in the Chairman's report (see *Bull. Brit. Orn. Cl.* 126: 84), Committee is looking at a long-term vision for the future of the Club, and the newly formed Bulletin Subcommittee (see *Bull. Brit. Orn. Cl.* 126: 1) has been tasked to offer advice on possible future options for the publication, production and distribution of the Bulletin, in the light of rapid advances in modern technology, including the possibility of an online version. Following the subsequent dinner that evening, Michael Casement gave a brief explanation to all present of the background and hopes for this major review, and listed the main issues to be addressed:

A. The Bulletin When this becomes available online, what is the likely print-run for hard-copies for (i) individual members, and (ii) for Libraries and Institutions?

B. Membership How should we encourage recruitment in order to maintain a viable membership that justifies the production and distribution costs of hard copies of the Bulletin?

C. Publications policy Now that BOC largely finances the publication of the *Checklist* series, what should be our policy for the BOC *Occasional Publication* series?

D. Sales policy For *Bull. BOC* back numbers: complete issues, and / or individual papers, CDs, DVD or PDFs?

E. Website (i) What additional features do we need to promote membership and sales? (ii) When will full 'searchability' of *Bull. BOC* (by authors and subjects) be achieved? (iii) What cross-referencing between BOC and BOU websites is desirable?

F. Dinner meetings What, if any, changes to the current arrangements, and frequency, is desirable?

G. Relationship with BOU What further scope is there for BOU to assist BOC in pursuing its objectives, and conversely for BOC to complement the activities of the BOU?

The Bulletin Subcommittee subsequently met on 3 May, and their initial recommendations on items A–E above are now under active consideration by the Committee.

New members Committee is pleased to welcome the following new members who were formally elected at the meeting held on 6 June 2006: Mr U. Perktaş (Turkey) and Mr J. L. Dunn (USA).

The 938th meeting of the Club was held on Tuesday 6 June 2006, in the Sherfield Building Annexe, Imperial College, London. Twenty members and seven guests were present.

Members attending were: Cdr. M. B. CASEMENT, RN (*Chairman*), Miss H. BAKER, D. R. CALDER, Major P. CARR, RN (*Speaker*), Prof. R. A. CHEKE, R. C. DICKEY, D. J. FISHER, F. M. GAUNTLETT, Dr J. P. HUME, G. P. JACKSON, R. H. KETTLE, R. R. LANGLEY, Dr C. F. MANN, D. J. MONTIER, Dr R. P. PRYS-JONES, P. J. SELLAR, S. A. H. STATHAM, C. W. R. STOREY, Cdr. F. S. WARD, RN, and P. J. WILKINSON

Guests attending were: Mrs C. R. CASEMENT, Mrs J. CALDER, M. EASTERBROOK, Mrs M. H. GAUNTLETT, J. HUGHES, Mrs M. MONTIER and Cdr. J. M. TOPP, RN.

After dinner, Major Peter Carr gave a most informative talk, *Bikes, boats and boobies—an ornithological survey of Diego Garcia.* Speaking on behalf of the Royal Navy Birdwatching Society (RNBWS), Major Carr detailed the findings of the society's expedition to Diego Garcia, the largest atoll in the Chagos archipelago in the central Indian Ocean. The RNBWS visited Diego Garcia in May 2005, sponsored by the RSPB and the FCO Overseas Territories Environmental Programme, to monitor the seabirds of the recently designated Important Bird Area (IBA) centred upon Barton Point. The talk commenced by showing views of the atoll and went on to cover both Man's historic influence on the seabirds of the Chagos and to highlight the major ornithological works covering the islands. It is of interest that there is a paucity of reliable data covering the internationally important seabird populations of the Chagos and that *Sea Swallow* (the journal of RNBWS) probably contains more references to the birds found there than all other journals combined. The talk went on to discuss the findings of the expedition. Transect work in Barton Point IBA was difficult due to the dense habitat, but the team recorded 4,327 breeding pairs of Red-footed Booby *Sula sula* in May 2005 (the minimum for IBA status being 3,000 pairs), and it was encouraging that this species appears to have been increasing on Diego Garcia since the early 20th century. The expedition also conducted a full ornithological survey of Diego Garcia and appears to have recorded at least two new species for the Chagos, Gull-billed Tern *Gelochelidon nilotica* and White-cheeked Tern *Sterna repressa.* The full expedition report detailing all of the findings can be found in *Sea Swallow* 54 (2005) and details of the society are available at www.rnbws.org.uk.

CORRIGENDUM

In Donegan & Huertas (*Bull. Brit. Orn. Cl.* 126: 94–116), it is stated that the holotype of *Atlapetes latinuchus yariguierum* is specimen no. ICN-34016, but the correct number is ICN-34812.

The birds of Mark Catesby's *The natural history of Carolina, Florida and the Bahama Islands*

by Michael Walters

Received 4 November 2004; final revision received 3 July 2006

The plates of Mark Catesby's *The natural History of Carolina* . . . contain many of the first satisfactory descriptions of North American birds. Indeed, many formed the basis for binomials in Linnaeus' *Systema Naturae* (1758), and today these birds bear Linnaeus' names based on Catesby's engravings and descriptions. Less well known is that the original watercolours on which the engravings in the book were based were purchased by King George III in 1768 and are housed in the Royal Library in Windsor Castle. They were discussed by McBurney (1997). In several cases the originals differ considerably from the final plate and in a few depict birds omitted from the published version. Despite the scrutiny to which the book has been subjected, a few of the birds Catesby depicted have never been satisfactorily identified. Catesby's birds have previously been discussed, notably by Allen (1951) and Feduccia (1985); the principal purpose here is to comment on the unidentified and doubtfully identified species. Are they, for instance, errors on the part of Catesby, or do they represent species that once occurred in south-eastern North America?

In the course of conserving the Windsor watercolours during the 1990s, these were removed from the volumes in which they had been bound (McBurney 1997) and in a few cases preparatory pencil or ink sketches were found on the reverse. These were partly discussed by McBurney (1997) and are further discussed here. In the following account, the first number indicates Catesby's published plate number. A prefix 'A' indicates that the plate occurs in the Appendix of Catesby's book. This number is followed by Catesby's original English name and (in the case of identified species) by the current vernacular name and by the current scientific name.

8. Whip-poor Will = Common Nighthawk *Chordeiles minor.* Feduccia (1985) identified this as a composite of two birds, Chuck-will's-widow *Caprimulgus carolinensis* and Common Nighthawk *Chordeiles minor.* The original watercolour is clearly of *C. minor.*

10. The Parrot of Paradise = *Unidentified* 'Psittacus paradisi' Linnaeus. This is probably the most controversial of Catesby's unidentified birds. It was identified (Salvadori 1891: 316) as a leucistic White-headed [Cuban] Amazon *Amazona leucocephala.* Whilst the total absence of blue pigment in a specimen of the latter would produce a bird not unlike Catesby's, the absence of a white forehead would seem to rule out this identification. Catesby's account implies that he saw the bird alive and, as he was a most careful observer, there can be little doubt of the accuracy of his description: 'Is somewhat less than the common African grey parrot; the bill white, the eyes red; the upper part of the head, neck, back and wings, of a bright yellow, except the quill feathers of the wing, which are white: the neck and breast scarlet, below which is a wide space of yellow; the remainder of the under part of the body scarlet; half way of the under part of the tail, next the rump, red, the rest yellow. All the yellow [plumes*], particularly the back and rump, have the ends of the feathers tinged with red; the feet and claws white . . . It was shot by an Indian on the Island Cuba; and being thus disabled

from flying, he carried it to the Governor of the Havana, who presented it to a Gentlewoman of Carolina, with whom it lived some years, much admired for its uncommonness and beauty.'

* 'Toutes les plumes jaunes' is given in the French text, word omitted in the accompanying English text.

19. Hairy Woodpecker = Hairy Woodpecker *Picoides villosus.* The verso shows a very faint pencil outline sketch of a bird, a probably unidentifiable passerine.
23. Pigeon of Passage = Passenger Pigeon *Ectopistes migratorius.* The verso is inscribed in brown ink (not in Catesby's hand, *fide* McBurney 1997), and reads 'A Virginia Wood Pidgeon comes in / Winter season [*sic*].'
31. Little Thrush = *Unidentified* 'Turdus minimus' Catesby. Thought perhaps to be a poor illustration of a Hermit Thrush *Catharus guttatus* (Allen 1951).
32. Lark = Horned Lark *Eremophila alpestris.* The 'Tit Lark,' another bird appearing on this watercolour but omitted from the published plate, appears to be unidentifiable. The verso appears to be a pencil sketch of the upper figure (i.e. the Horned Lark).
34. Cow-pen bird = female Cowbird *Molothrus* sp. Feduccia (1985) identified this as Brown-headed Cowbird *Molothrus ater.*
35. Little Sparrow = *Unidentified.* The 'Yellow Tit,' omitted from the published plate but appearing on the watercolour, appears to be unidentifiable.
36. Snow-bird = Dark-eyed Junco (lower figure) *Junco hyemalis.* The original watercolour shows both the 'Snow-bird' (Dark-eyed Junco) and the 'Purple Finch' which appear on Pl. 36 and 41 respectively.
44. Painted Finch = Painted Bunting *Passerina ciris.* The original watercolour depicts two birds, both referred to as 'Painted Finch.' Only the upper figure appears in the published plate. The lower figure is not the Painted Bunting and appears to be the same as the 'Blue Linnet' i.e. the Indigo Bunting, which appears on Pl. 45. The verso is a preliminary sketch for Swallow-tailed Kite *Elanoides forficatus,* very similar to an outline of RL 24817.
46. Chatterer = Cedar Waxwing *Bombycilla cedrorum.* The verso seems to be a sketch of seed pods.
50. Yellow Breasted Chat = Yellow-breasted Chat *Icteria virens.* The verso is another sketch of the Swallow-tailed Kite, less complete than that on RL 25875; part of the body has been gone over in pen and ink, but the feet remain in pencil only. There is an inscription which reads 'Houk hoo is the bird.'
54. Little Brown Flycatcher = *Unidentified?* 'Muscicapa fusca' Catesby. Thought perhaps to represent the Least Flycatcher *Empidonax minimus* (Allen 1951). Feduccia (1985) identified it as Eastern Wood Pewee *Contopus virens.*
58. Yellow-rump = *Unidentified* 'Parus uropygio luteo' Catesby. Probably the Yellow-rumped or Myrtle Warbler *Dendroica coronata* (Allen 1951, Feduccia 1985), but is unconfirmed.
60. Hooded Titmouse = Hooded Warbler *Wilsonia citrina.* The verso of RL 25896 (Purple-berried Bay Tree) shows the head and neck of an unidentifiable heron, painted in grey watercolour with a yellow bill and yellow skin around the eye. The neck is very long and snake-like. The eye is black.
61. Pine Creeper = *Unidentified.* This has been thought to represent the Pine Warbler *Dendroica pinus* (Allen 1951) but to me it does not appear identifiable. The watercolour depicts two birds, the unidentifiable lower of which was published on Pl. 61, and the upper (the Yellow-throated Warbler *Dendroica dominica*) on Pl. 62.
64. Finch-Creeper = Parula Warbler *Parula americana?* Allen (1951) stated that this plate only 'probably' represented the Parula Warbler; nevertheless Linnaeus' name (the one current for the species) is based solely on Catesby's plate and description. Though the plate contains some inaccuracies, Catesby's description is reasonably accurate and I am satisfied that this is the species he was attempting to depict.

77. Little White Heron = *Unidentified* '*Ardea alba.*' The original Windsor watercolour appears to be missing, but a pencil sketch of the bird appears on the verso of no. 76 (reproduced by McBurney 1997: 62). The Little White Heron has usually been tentatively identified as a young Little Blue Heron, but the description does not entirely agree. Though depicted with a yellow bill, Catesby states quite clearly that the bill is red, irides yellow and legs and feet green, which does not agree with any heron known from the area. He continued: "I believe they breed in Carolina, but I have never seen any of them in the winter.'

78. Brown Bittern = *Unidentified* 'Ardea stellaris.' This bird was said by Catesby to be smaller than the English Bittern. 'These birds frequent fresh Rivers and Ponds in the upper parts of the Country, remote from the Sea.' Feduccia (1985) tentatively identified it as Yellow-crowned Night Heron *Nyctanassa violacea.*

81. Wood Pelican = Wood Ibis (Wood Stork) *Mycteria americana.* A pencil sketch of the head appears beside the drawing.

84. Red Curlew = Scarlet Ibis *Eudocimus ruber.* This is the only identifiable species depicted by Catesby that does not normally occur in the area. Catesby may have encountered a vagrant. On the other hand, Feduccia (1985) suggested that the bird may formerly have had a broader range than it does now.

87. Booby = Brown Booby *Sula leucogaster.* A pencil sketch of the head with open bill appears beside the drawing.

    The verso of 26031 (Mastic Tree) has a pencil sketch of Laughing Gull *Larus atricilla* (RL 25924). The sketch is in exactly the same attitude as the finished drawing. The verso of RL 26032 (Ground Squirrel) shows part of the outline of the Tyrant (RL 25890) but only the foot of the bird is visible (McBurney 1997: 116).

A2. Razor-billed Blackbird = Ani *Crotophaga* sp. This is a watercolour by George Edwards from a live specimen (possibly then in the Sloane Collection) seen in 1743. Feduccia (1985) identified it as *Crotophaga ani.* The verso shows quite detailed preliminary sketches for this drawing, with several handwritten notes by Edwards of differing dates. The verso was reproduced, and the text of the notes transcribed, by McBurney (1997: 68).

A3. Yellow&Black Pie = *Unidentified.* This is evidently an oriole of the genus *Icterus,* but does not seem to agree with any extant species. It is closest to the Troupial *Icterus icterus,* but lacks any white in the wings.

A5. Head of 'the largeste crested heron' = *Unidentified.* This is one of the most interesting cases. The bird is known only from Catesby's description. Latham (1785, 3: 85; 1824, 9: 80) and Pennant (1785, 2: 443) gave abridged descriptions based on that of Catesby. Both Latham and Gmelin (1788, 1: 630) treated it as a synonym of the Great Blue Heron *A. herodias.* 'As I did not measure the length of this bird, I can only guess it to be not less than four feet and a half high, when erect. The bill measured almost eight inches from the angle of the mouth to the end of it; and was of a yellowish brown colour behind the eyes; and under the throat of a light brownish yellow. The crest on its head was made up of long narrow brown feathers; the longest being five inches in length, which it could erect and let fall at pleasure. The neck and breast brown, but paler, and spotted on the under part. The rest of the body and legs brown, except the quill feathers; which are black. They feed not only on fish and frogs, but on lizards, efts, etc. They are natives of Virginia.' (Catesby). The plate accompanying Catesby's description depicts only the head and neck of the bird. This shows a large brown heron with the crest set very far back on the head. No one has ever taken this description seriously, despite the general excellence of Catesby's work. Ridgway (1878) remarked scathingly: 'This is either an entirely mythical species, or else the figure and description are drawn from recollection. The figure quoted above is absolutely unlike any known American bird, Heron or Crane, while the description . . . cannot be made to apply to *Ardea herodias.* Although Linnaeus quotes Catesby among his citations under *A. herodias,* his description, which is based on Edwards's *Ardea fusca canadensis,* is perfectly applicable to the adult of *A. herodias.*' Yet there is a perfectly plausible explanation for Catesby's

heron, i.e. that the bird was a species of extremely limited distribution, which has subsequently died out.

A7. Golden-crowned Kinglet *Regulus* sp. Feduccia (1985) identified it as *Regulus satrapa.*

A8. Storm Petrel = an unidentifiable Hydrobatidae. Feduccia (1985) tentatively identified it as Wilson's Petrel *Oceanites oceanicus.*

A9. Whip-poor-Will = *Unidentified.* Allen (1951) stated: 'This is one of Catesby's poorest plates showing a long-tailed large-footed bird of yellowish brown colour with peculiar hair-like bristles around the bill. The bird, probably dead, was sent to him by a Mr. Clayton of Virginia, and this may account for the poor likeness.' Feduccia (1985) identified it as a composite of the Whip-poor-will *Caprimulgus vociferus* and Common Nighthawk *Chordeiles minor.*

Acknowledgements

I thank Henrietta McBurney, Robert Prŷs-Jones and Mark Adams for their help and advice in preparing this note.

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A complete list of the birds illustrated in Catesby's work *The natural history of Carolina, Florida and the Bahama Islands* and a longer version of the present manuscript is available on request from the author.—The Editor

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The zoology of the voyage of HMS Beagle. Part III. Birds: new avian names, their authorship and their dates

by Frank D. Steinheimer, Edward C. Dickinson & Michael Walters

Received 1 June 2005

The classic and often-cited book *The zoology of the voyage of HMS Beagle* is a puzzling work presenting problems in both the authorship of species names and the dating of the names. This paper complements the summary of known specimens provided by Steinheimer (2004), where the correction of all names and dates was not an objective, and sets forth our detailed findings.

Why should the work itself be puzzling? Because although both the title and half-title pages make clear that John Gould was to be its author, there is evidence within the work that he was not the sole author. And there is abundant evidence in other forms that permits an understanding of the roles of the three 'players': Charles Darwin (1809–82), John Gould (1804–81) and George Robert Gray (1808–72). This paper reports on our examination of each new avian name in the work with the objective of determining the authorship, taking account of Art. 50 of the *International code of zoological nomenclature*, fourth edn. (ICZN 1999) ('the Code'). That Article requires a distinction be made between evidence in the work itself and that available externally.

In this paper we use 'part' in relation to an issue with its own wrapper and 'Part' for the combination of parts covering a subject such as birds. This latter usage is that of Darwin; sum of the five parts on birds comprised Part III.

Dating parts can be resolved by reference to Sherborn (1897) who, in August 1895, consulted the information held by the printers (Smith, Elder & Co., London) and listed the dates of the parts, their pagination and incorporated plates. However Sherborn's information merits comment. There were five parts on birds, here numbered with Roman numerals (III, VI, IX, XI and XV[1]) as in the bottom left-hand corner of the wrappers; these numbers relate to the Zoology as a whole. The part number in the Part appears in the top left-hand corner of the wrapper, i.e. on the wrapper for Part III the entry at the top left is 'No. 1 of Part III'. The wrappers have the year shown in Roman numerals in the centre near the bottom, and the month in the bottom right-hand corner. Sherborn did not mention having examined a set with wrappers; had he done so it would have been characteristic of him to mention this. However, the details he gave agree completely with those on the wrappers as we confirm below.

[1]Confusingly Roman numerals were used for these as well as for Parts (or volumes)!

The bird plates, ten per part, bore Roman numerals in a numeric series specific to the volume on birds (with part III containing Plates I–X, part VI containing Plates XI–XX, and so on). The text for species depicted in the plates was not always published concurrently with the plates. The plates *were* labelled with scientific names; thus, in some cases the name first appeared on a plate and the issue of authorship must be examined in that light. There are also instances where the name on the plate differs from that in the text and in these cases we find examples where the text name appeared before that on the plate and vice versa. Each case must be examined for issues of priority when deciding upon the authorship of a name. And, finally, there appeared to be two 'states' in which this work can be found.

Twenty-eight of Darwin's new birds from the voyage were laid before the Zoological Society of London and their descriptions published in its Proceedings. We have included these cases, where Gould was always the author, as well as the many more first named within the book to ensure this report is comprehensive. We also comment on a situation where the name on a plate in the book is attributable to a prior publication in these *Proceedings*, and a case where the author is Bonaparte and not Gould. We omit two names[2] that might seem to be associated but which appeared earlier and seem to have been based on material obtained by Philip Parker King (1791–1856).

One of the descriptions in the *Zoology* was evidently based, not on material collected by Darwin, but by Captain Robert FitzRoy (1805–65); this, discussed later, is the lone specimen of *Strix punctatissima* Gould & G. R. Gray, *in* Gould, 1838b. Gray, working at the BMNH, to which Captain FitzRoy had donated his collection in February 1837, had FitzRoy's material available, and certainly consulted some of his birds for the work on the *Zoology*, not least this specimen.

Evidence of authorship

As an example of the misunderstanding of Darwin's role, it may be observed that Traylor (1979: 20) listed '*Pachyramphus albescens* Darwin, 1839', and indicated that Gould supplied the locality; in fact Darwin would have supplied the locality and Gould the description and name. Authorship flows from the provision of the description and the proposal of the scientific name.

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[2] *Orpheus modulator* Gould, 1836, and *Troglodytes magellanicus* Gould, 1837. The name *Troglodytes magellanicus* Gould, 1837: 88, considered by Warren & Harrison (1971: 321) to be based on a specimen from Darwin's collection, was in fact described from a specimen exhibited at the 11 October 1836 meeting of the Zoological Society of London, chaired by Joseph Cox, Esq., as was *Scytalopus fuscus* Gould, 1837, described on the following page. The specimens used to describe these species probably derived from P. P. King's collection, both being from 'Fretum Magellanicum' [Strait of Magellan] (cf. King *et al.* 1839). Darwin had returned to Britain, in HMS *Beagle*, on 2 October (Sauer 1998a: 143), but was now without his collections; none of Darwin's bird specimens was accessible to Darwin, let alone other scientists, until December 1836 (cf. Steinheimer 2004).

That Gould was the original author of the 'Birds' (Part III) is apparent from the title page where, under the series title, one finds 'edited and superintended by Charles Darwin', but the half title makes clear that the birds were 'described by John Gould' and that Darwin furnished 'a notice of their habits and ranges'. This 'notice' is not one notice but many, all forms dealt with including at least a range statement, but many have short to long accounts of their habits as well, copied from Darwin's original zoological and ornithological field notes (Barlow 1963, Keynes 2000). In the 'Advertisement' which serves as Darwin's unsigned introduction, Darwin remarked that he had considered using initials to signal shares of such texts but said, of Gould, that 'as it may be known that he is responsible' for the description of the genera and species 'this appeared to me useless'. Darwin sometimes enlarged Gould's descriptions, but the work does not tell us which and in the circumstances the recognition of Darwin as the author of any specific or generic name would require case-sensitive supporting evidence to meet the requirements of the Code.

As Gould developed his text he employed a 'convention', then current, signalling a change in the generic attribution of a known species by adding 'Gould'. From the synonymies inserted in the species accounts it is immediately apparent from whom he drew the specific binomen, although the title of the original work of the author named is not always evident.

In the case of birds that Gould had already described in the *Proceedings of the Zoological Society of London*, in the *Zoology* he usually cited the year and page number, but he did not always do so.

When Gould and his wife Elizabeth (1804–41) left for Australia, on 16 May 1838 (Sauer 1998a: 243), Darwin turned to Gray, apparently on Gould's advice as Gray wrote to Gould 'I have undertaken to assist Mr. Darwin in his and your book, I believe you requested him to seek me for that purpose' (Sauer 1998b: 28). As Darwin wrote in the 'Advertisement', 'I was left in doubt on some essential points. Mr. George Robert Gray, the ornithological assistant in the Zoological department of the British Museum, has in the most obliging manner undertaken to obviate this difficulty, by furnishing me with information with respect to some parts of the general arrangement, and likewise on that most intricate subject—the knowledge of what species have already been described, and the proper use of generic terms.'

The first of these two points was well taken, as Alcide d'Orbigny (1802–57), after his Latin American collecting in 1826–33, busily published the zoological results, mostly in joint papers with Baron Frédéric de Lafresnaye (1783–1861) (d'Orbigny & Gervais 1835–47, d'Orbigny & Lafresnaye 1837, 1838). In cases where these authors described new genera the generic names used by Gould in his draft might be expected to be subject to consequential corrections. But in addition there were opportunities for misidentification with existing genera and thus for naming new ones.

Darwin conveyed the impression, in the 'Advertisement' (Darwin 1838), with which the *Zoology* opens, that he edited Gray's comments into the text, but Darwin seems to have relied heavily on Gray; the proofs of the second part on birds went to

Gray on 4 December 1838 (Burkhardt & Smith 1986: 136) and the part was published in January 1839, and subsequently Darwin is reported writing to Gray urging him to complete the manuscript (Burkhardt & Smith 1986: 280). These notes support our impression that Gray himself made changes and additions, with the relevant specimens available to him, and that Darwin edited these or some of these after the fact.

Whichever was the process, the result is that the name G. R. Gray appears widely in contexts suggesting his authorship. To a point this is consistent with Darwin's note, again in the 'Advertisement', that 'I shall endeavour in every part of the text to refer to Mr. G. R. Gray's assistance, where I have used it'. In July 1838 notes sent to Gould by Edwin Charles Prince (1809–74), his secretary, record the latter's view that 'the whole is indifferently written' (Sauer 1998a: 263). The Goulds left Australia for England on 9 April 1840 and returned in August 1840 before the last part was published, but we know of no evidence that the content of part 15 then came under Gould's review.

Gray followed the same convention as Gould. Thus, there are names with 'G. R. Gray' attached to them that were due to generic reassignment. For a time, but not in this work nor perhaps as early as this, the practice of signalling such reassignments by using 'nov. comb.' was general, and helpful. The current practice of continuing to credit authorship to the original describer but with his name placed within parentheses was not to emerge for some time, although the reasons for addressing this matter were clear to others (Strickland 1842). Darwin was much in favour of continuing to ascribe the species name to the original author, and not to the author of any new combination (see letter to Leonard Jenyns in Burkhardt & Smith 1986: 317).

The role of Darwin

The title and half title of this work do not give any cause to credit a name to Darwin's authorship. That such authorship needs to be considered is because Darwin has been widely credited with the generic name *Myiobius*, and to the evidence of Gray's involvement, its limitations and related concerns as to Darwin's full acceptance of Gray's work. Art. 50.1.1 of the Code (ICZN 1999) comes into play where there is a case when a name proposed in a work lacks clear authorship. In the context of the *Zoology* as a whole Darwin would be rightly recognised as 'the person who publishes the work', but in the context of the 'Birds' he made it clear that he had delegated this primary role to Gould. Were this not the case then all the new names we attribute to Gould, except those published in the preliminary papers in the *Proceedings of the Zoological Society of London*, would have to be attributed to Darwin & Gould.

Darwin should be considered an author only if there is good reason to believe that the name was not included in Gould's manuscript and where the name of Gray is not made explicit in the text in the context of the case concerned, or Gray's role

is unclear from the work as a whole (including Darwin's Corrigenda in 1841). In this context Recommendation 50A[3] of the Code (ICZN 1999) has been considered.

The sole case in which we believe Darwin should be considered the author of a name is that of *Milvago leucurus*. In the text, Darwin *in* Gould (1838c: 15) makes clear that Gray discovered Forster's unpublished drawing with this name 'written on it', so we know that Gray did not coin the name, and it is apparent, from the first person singular account given, that Darwin adopted and published the name. It should thus be cited as *Milvago leucurus* Darwin (ex Forster MS), *in* Gould, 1838b.

Citation of names from the plates

If Gould did not first name the new birds in a preliminary paper their names are cited from whichever appeared first, the text or the plate. If the plate appeared first the author of the name must be Gould. It is known that Gould sketched the plate content and after verification of the final execution and proposed colouring by Elizabeth, his wife, permitted her to draw on the lithographic stones; and that all the lithographic stones were finished by the time the Goulds left for Australia (Darwin 1838: i). Gould coined most of the new names which appear on the plates.

Because the timetable relating the plates to the text parts seems to have been ignored for most of the 19th century, credit for the name *Strix punctatissima* has been accorded to 'G. R. Gray, 1839', the text date. However, the plate appeared a year earlier in July 1838. Normally one would attribute such a name to the person responsible for the publication of the plate, which we consider to have been Gould[4]. However, in the text Gray adds his name to that given to this taxon and he evidently wrote the description. As authorship may be determined on the basis of the work as a whole we consider that Gould and Gray should be credited with the name on the plate and that it should be cited as *Strix punctatissima* Gould & G. R. Gray, *in* Gould, 1838b.

It seems likely that this species would not have come to Gould's notice had not Gray drawn attention to it; and this probably occurred before February 1838 when Darwin asked Gould to recommend which subjects be depicted. We have enquired if the Darwin archives, at Cambridge University Library, hold any documentation suggesting a change in the planned plate coverage, but if they do it has not been found (P. White pers. comm. 31 November 2004).

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[3]This Recommendation deals with multiple authorship: it includes the sentence 'Co-authors of the whole work who have not had such direct responsibility for the name should not automatically be included as authors of the name'.

[4]In a letter to Gould, on 18 February 1838, Darwin asked him to choose the subjects 'most worthy being done', and to ask Gould's primary colourist Gabriel Bayfield (1781–1870) if he would agree to colour them.

Potential dual authorship

Other than the case of *Strix punctatissima*, the only cases where there would appear to be an argument for accepting joint authorship of a name would seem to be cases where Gould authored the description and supplied a scientific name, which Gray cited as a MS name and then employed with a changed generic name.

In the context of the Code (ICZN 1999; Art. 51.3) published names, following their removal to another genus, retain their original authorship but the author's name and date are to be placed in parentheses. Thus, we have the case of '*Tyrannulus magnirostris* Gould, 1838'[5], which dates from Plate VIII in part 3 of the *Zoology*, which becomes '*Myiobius magnirostris* (Gould, 1838)' when the change in generic assignment proposed in the text, by Gray, is followed. In this instance, when the text appeared in part 9 in 1839, Gray's authorship did not appear after *Myiobius magnirostris* on p. 48.

Above this, on p. 48, we find *Myiobius parvirostris*; below this name, in a style identical to the previous case, appears '*Tyrannula parvirostris*, Gould, MS'. There is no plate so this page is where the name first appears. It is clear from the context, but not explicit beside the printed binomen, that Gray is the author of the corrected name. Gray's name appears on p. 46 beside the newly proposed generic name (see below). In this case the Code might appear to sanction the attribution of the name to Darwin, however Art. 50.1.1 requires the author's name, i.e. Gray's name, to be explicit in the work and we judge that this requirement is met and that Gray must be credited with the name. Although Gould's name was cited as a MS name, Gray retained *parvirostris* and it is probable that Gould, and not Gray, wrote the description and he, Gould, must share credit for the new name. It should be cited as *Myiobius parvirostris* Gould & G. R. Gray, *in* Gould, 1839b.

The case of *Myiobius auriceps* on p. 47 is identical to that of *M. parvirostris*. It should be cited as *Myiobius auriceps* Gould & G. R. Gray, *in* Gould, 1839b.

In the cases of *Pachyramphus albescens* and *P. minimus* the situation is marginally different. The text makes clear that the original names came from Gould, who used the generic name *Pachyrhynchus* in his MS. Both these names appeared on the plates, but the generic name was not that used by Gould, and the later text makes clear that the new generic name came from Gray.

It is noteworthy that the text sequence suggests that these birds would be depicted in Plates IX and X, respectively (to be issued with part 3), but their plates are numbered XIV and XV[6], in agreement with the 'List of Plates', making it probable, from the change in the sequence of issue of the plates, that, after Gould

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[5]Names shown in inverted commas are representations of errors. The reference list does not provide for them.

[6]Except in the 'facsimile' edition where the plate numbers were arranged to follow the sequence of the text.

had left for Australia in May, Darwin and Gray had these lithographic stones rewaxed so as to use Gray's corrected generic name. The first use of the generic name *Pachyramphus* is thus in fact on Plates XIV and XV in part 6, and not in the text in part 9, let alone in Gray (1840) as cited by Traylor (1979). The generic name would thus normally be attributed to Gould not to Gray, but it is clear from the work as a whole that Gray provided the name, making joint authorship of this generic name again appropriate. It should be cited as *Pachyramphus* Gould & G. R. Gray, in Gould, 1839a.

The discovery that the name *Pachyramphus* dates from 1839 and not from Gray (1840) reveals that this generic name is currently used in a way inconsistent with the requirement that the generic name maintain its links with the type species.[7] To obviate the need to find another name for those species now treated in *Pachyramphus* (see Snow 1979: 229–240) application is being made to the International Commission on Zoological Nomenclature to conserve *Pachyramphus* G. R. Gray, 1840, and suppress *Pachyramphus* Gould & G. R. Gray, *in* Gould, 1839 (Gregory *et al.* in press).

The generic name *Myiobius*

This name has attracted prior attention because it is a new name for *Tyrannula* Swainson, which was felt to require replacement when the Tyrannidae appeared set to contain the generic names *Tyrannulus* Vieillot, 1816, and *Tyrannula* Swainson, 1827. By the use of its Plenary Powers the ICZN (1956; Opinion 414), although noting that Swainson's name was not a homonym, suppressed *Tyrannula* and accepted *Myiobius* Darwin as the replacement name. Nothing in the discussion of that case touched on whether Darwin was or was not the author of the name. Zimmer (1952), set out within his proposal, reproduced in full in ICZN (1956; Opinion 414), that Darwin was its publisher and that Darwin regarded the name *Tyrannula* 'as an invalid junior homonym of *Tyrannulus*'. The notion that authorship might not attach to the publisher escaped attention.

However, it is clear from p. 46 of the *Zoology* that G. R. Gray was its author, not Darwin. Zimmer (1952) should have seen from the work, especially its introductory pages, the significant role Gray played and, from p. 46, Gray's staked claim to authorship.

The stability of the name is not at issue here and there is no reason why the authorship of the generic name *Myiobius* should not be restored to G. R. Gray; there being no direct evidence of Darwin's involvement. The name should be cited as *Myiobius* G. R. Gray, *in* Gould, 1839b.

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[7] In Snow (1979: 229) the type species given for the genus is that given by Gray (1840) but is a species that was not included in *Pachyramphus* Gould & G. R. Gray, *in* Gould, in 1839.

TABLE 1

The two 'states' of plate lists of *The zoology of the voyage of HMS Beagle* compared: SK refers to the copy in The Natural History Museum, South Kensington; these numbers are matched exactly by those present in an unbound set in original wrappers in the University of London. F is the New York University Press facsimile edition. Plate numbers are given in Roman numerals.

Name of subject	**SK**	**F**	**Comments**
Progne modestus [*modesta*]	V	V	Spelling correction only
Lichenops erythropterus	IX	XI	Date of taxon potentially affected; case 1.
Fluvicola azarae	X	XII	Date of taxon potentially affected; case 2.
Taenioptera variegate	XI	XIII	Change in number consequential; no effect on date of taxon. New name provided (*Xolmis variegata*), but only in List of Plates in SK copy.
Agriornis micropterus	XII	XIV	Change in number consequential; no effect on date of taxon.
Agriornis leucurus	XIII	XV	Change in number consequential; no effect on date of taxon
Pachyramphus albescens	XIV	IX	Date of taxon potentially affected; case 3. When Pl. 14 the plate sequence no longer follows the text sequence.
Pachyramphus minimus	XV	X	Date of taxon potentially affected; case 4. When Pl. 15 the plate sequence no longer follows the text sequence.
Upercerthia dumetaria	XIX	XIX	List of Plates in SK copy shows spelling correction to *Uppucerthia* [*sic*] *dumetoria* [*sic*]. No mention of correction in the List of Plates in the facsimile.
Opetiorhynchus lanceolatus	XX	XX	Comparison shows no change, but List of Plates in SK copy explains subsequent name change to *Opetiorhynchus nigrofumosus*. No mention of correction in the List of Plates in the facsimile.
Synallaxis major	XXII	XXII	List of Plates in SK copy explains subsequent name change to *Anumbius acuticaudatus*. No mention of correction in the List of Plates in the facsimile.
Limnornis curvirostris	XXV	XXVI	Change of sequence to fit text sequence.
Limnornis rectirostris	XXVI	XXV	Change of sequence to fit text sequence.
Ammodramus xanthornus	XXX	XXX	List of Plates in SK copy explains subsequent name change to *Ammodramus manimbe*. No mention of correction in the List of Plates in the facsimile.
Tanagra Darwinii	XXXIV	XXXIV	List of Plates in SK copy explains subsequent name change to *Aglaia striata*. No mention of correction in the List of Plates in the facsimile.

Compounding the confusion: two 'states' of the work

A 'facsimile' edition of *The works of Charles Darwin* was published in 1987 by New York University Press, edited by P. H. Barrett & R. B. Freeman. This work includes the *Zoology* and the volume on birds includes the following notice 'The University of London have kindly given us permission to reproduce the colour plates from their copy of the original numbers. Several of the captions were altered when the numbers were rearranged for publication in book form and we have accordingly reset the captions to conform with the text set from the British Library copy of the bound volume'.

Comparison between the List of Plates in the facsimile edition and the list of plates in the bound copy in The Natural History Museum, South Kensington, revealed differences in plate numbers and/or captions in respect of 15 plates (Table 1).

In both states, the text, where it contains plate numbers, is consistent. In the South Kensington copy the numbers given in text with the species accounts and on the plates all agree with the numbers in the List of Plates; in the facsimile set the numbers given in the text with the species accounts and on the plates all agree with the *modified* List of Plates. In the South Kensington set the List of Plates is presented in two columns on one page and corrections are given in respect of Plates XI, XIX, XX, XXII, XXX, XXXIV. By contrast the minor correction from *Progne modesta* to *Progne modestus* is not mentioned. In the facsimile the List of Plates appears on two pages and no mention appears of any corrections.

Thanks to the authorities at the University of London and at the British Library two of us (ECD and MPW) have examined the sources used for the creation of the facsimile edition. The set held by the University of London is in original wrappers bound as issued. Each of the five parts of the volume comprising the 'Birds' is stitched together and has a dark green tape binding over the spine from *c.*1 cm into the front cover to 1 cm into the back cover. The printed face and back are on paper over thin board and the paper component laps over the edge of the green tape. The importance of this evidence was emphasised by Roy Moxham, the library's senior conservationist, who felt satisfied that this binding is exactly how the parts were originally issued. In these five parts the plates are grouped at the back. The plates in the first part are I–X and the plate contents and captions are exactly as they are in the bound volume in The Natural History Museum, South Kensington. The wrappers are dated and these dates agree completely with those given by Sherborn (1897).

The copy in the British Library has been rebound and the binding is so tight that some of the plate numbers are very difficult to see. It is apparent that they would have been unsuitable for reproduction. The plate contents and captions are exactly as they are in the set of original parts and in the copy in NHM. In all three copies, and evidently the entire print run, the plate numbers do not precisely follow the sequence in which the captioned species are dealt with in the text.

It is no accident that the difference in sequence begins with Plates XIV and XV, which should have been Plates IX and X. The reason for this was discussed above. The renumbering of Plates XI, XII and XIII is simply a consequence of the first change. The only other difference in numbering is the transposition of Plates XXV and XXVI, where it appears that a simple mistake was made when adding the plate numbers.

So the second part of the notice quoted above should be interpreted to mean: 'The facsimile edition includes the plates in the order of the sequence of the species in the text. Some captions were also altered when the numbers were rearranged. Some plate numbers given in the text were also realigned'.

This change in the wording of the notice is more than a matter of semantics. If one takes the facsimile edition in conjunction with the information that Plates I–X were published in 1838 one would find, due to the renumbering, that the dates that one would derive for the subjects of four plates would be wrong.

We conclude that the unbound copy in original wrappers represents the first 'state', that of publication, and that the 'second state', the facsimile reprint is irrelevant and must be disregarded when names are to be dated. We have also found one spelling error in a generic name that was not in the original, and there may be more.

Other editions exist (S. M. S. Gregory *in litt.* 2005) that are facsimiles, e.g. a 1980 edition published by Nova Pacifica, Wellington, New Zealand, and a 1994 printing attributed to the Royal Geographic Society and separately to 'C.I.L. Ltd.'. Furthermore there is said to be a 1987 edition with its publication attributed to 'London'. We have seen none of these, but only the 1980 edition seems certain to lack the flaws of the New York University Press 'facsimile'.

Summary of corrections to authorship and date

We provide in Table 2 details of our findings, arranged in sequence of publication. This commences with taxa named in *Proceedings of the Zoological Society of London* and continues with those named in the *Zoology*. The table sets out the dates of the plates and the text in such a way that the priority of one or the other is apparent from the sequence of our listing and from the data shown.

Column 2 *Original names with authors and correct citations* is the focus of this table. It is here that the names and citations are taken from the original source. We use bold type in column 1 (numeral sequence) to emphasise where we propose to correct a previous misinterpretation of the authorship or publication date, based on a comparison with the appropriate parts of Peters' Check-list (Peters 1934, 1937, 1940, 1945, 1951, 1960a,b, Moreau & Greenway 1962, Lowery & Monroe 1968, Paynter 1970, Mayr 1979, Snow 1979, Stresemann & Amadon 1979, Traylor 1979). Although, when we refer to current nomenclature, using the term 'now', we use names and spellings from Peters' checklist, we add corrected spellings and subsequent assignments where names used in Dickinson (2003) differ.

TABLE 2

Summary of nomenclatural findings in *The zoology of the voyage of HMS Beagle* and corrections to Peters' *Check-list of birds of the world.*

Notes: 1) All citations show the date of publication; those from the *Proc. Zool. Soc. Lond.* add what is often understood to be the 'volume year' in brackets after the page number, but only when publication occurred later. The citations from the *Zoology* all refer to Part III as '3' and the part numbers (3, 6, 9, 11 and 15) are omitted as the volume has through pagination. 2) With the exceptions of *Agriornis maritima* and *Pyrocephalus coronatus*, we do not include names that were merely new combinations. 3) In the original certain generic names may have been abbreviated; if accuracy in this respect is required it will be necessary to go to the original. 4) The current name is unchanged, from that given in column 2, unless indicated. The citations found in Peters' *Check-list* are not significantly different, unless this is indicated below. 5) In all cases of new names published in the *Zoology* a full citation should include '*in* Darwin'after the author's or authors' name(s), e.g. *Pyrocephalus nanus* Gould, 1838, *in* Darwin, *Zool. Voy. HMS Beagle*, 3. Pl. VII. We do not follow this here for lack of space. 6) The name *Aglaia striata* appears in the List of Plates as a replacement name for *Tanagra Darwinii* (which was described by Bonaparte, 1838). The change of name reflected Gray's awareness of the prior name. *Aglaia striata* was attributed in the text (p. 97) to d'Orbigny & Lafresnaye. This was placed in synonymy of *Thraupis bonariensis* (Gmelin, 1789) by Sclater (1886: 164) and in current understanding *Aglaia striata* is a synonym of the nominate form. Plate XXXIV almost certainly depicts a bird from Maldonado, Uruguay.

Names proposed in the *Proceedings of the Zoological Society of London*
(dates follow Duncan 1937)

	Original names with authors and correct citations	**Comments**
	***Proc. Zool. Soc. Lond.*: Gould, 1837b**	**Published not before 3 October 1837**
a1	*GEOSPIZA* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 5.	
a2	*Geospiza magnirostris* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 5.	Now *Geospiza magnirostris* Gould, 1837.
a3	*Geospiza strenua* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 5.	Synonym of *Geospiza magnirostris* Gould, 1837; but see Sulloway (1982: 65–66) for recognition of *strenua*.
a4	*Geospiza fortis* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 5.	Now *Geospiza fortis* Gould, 1837.
a5	*Geospiza nebulosa* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 5.	Treated as unidentified in Paynter (1970: 162 footnote). But Sulloway (1982: 65–66), considered *Geospiza nebulosa* a senior synonym of *Geospiza difficilis* Sharpe, 1888, based on a Charles Island population now extinct. Peter Grant and colleagues are working on the identity issue 'and may, after resolving its identity, designate a lectotype accordingly' (P. Grant pers. comm. 21 March 2005).
a6	*Geospiza fuliginosa* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 5.	Now *Geospiza fuliginosa* Gould, 1837
a7	*Geospiza dentirostris* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 6.	Synonym of *Geospiza fortis* Gould, 1837; not listed in Paynter (1970), but see Hellmayr (1938: 131).
a8	*Geospiza parvula* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 6.	Now *Camarhynchus parvulus parvulus* (Gould, 1837).

a9	*Geospiza dubia* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 6.	Synonym of *Geospiza fortis* Gould, 1837; not listed in Paynter (1970), but see Hellmayr (1938: 131).
a10	*CAMARHYNCHUS* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 6.	Proposed as a subgeneric name.
a11	*Camarhynchus psittacula* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 6.	Now *Camarhynchus psittacula psittacula* Gould, 1837. The specific name was spelled *psittaculus* in the *Zoology*, but the original name is invariable.
a12	*Camarhynchus crassirostris* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 6.	Now *Camarhynchus crassirostris* Gould, 1837.
a13	*CACTORNIS* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 6.	Proposed as a subgeneric name. Not cited in Paynter (1970).
a14	*Cactornis scandens* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 7.	Now *Geospiza scandens scandens* (Gould, 1837). Parentheses seem to be needed as Gould used the name *Cactornis scandens* even if he wrote that *Cactornis* was a subgeneric name.
a15	*Cactornis assimilis* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 7.	Not cited in Paynter (1970). Now in synonymy of *Geospiza scandens* subsp.? Darwin was unclear as to the island of origin. Sulloway (1982: 79) suggested that this might be a straggler of the race *rothschildi* from Bindloe Island.
a16	*CERTHIDEA* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 7.	Proposed as a subgeneric name.
a17	*Certhidea olivacea* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 7.	Now *Certhidea olivacea olivacea* Gould, 1837.

***Proc. Zool. Soc. Lond.*: Gould, 1837c** **Published not before 3 October 1837**

b1	*Polyborus galapagoensis* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 9.	Now *Buteo galapagoensis* (Gould, 1837).
b2	*Polyborus* (*Phalcobaenus*) *albogularis* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 9.	Now *Phalcoboenus megalopterus albogularis* (Gould, 1837). Art. 51.3.2 of the Code (ICZN 1999) implies that the name in parentheses should be seen as a subgeneric name, and that in this instance the name *Polyborus albogularis* Gould, 1837, would be correct, if assigned to that genus, and that otherwise *Phalcoboenas albogularis* (Gould, 1837) would be the rendering required; thus current usage requires parentheses too. *Phalcobaenus albogularis* (Gould, 1837) in Dickinson (2003).
b3	*Buteo varius* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 10.	A synonym of *Buteo polyosoma polyosoma* (Quoy & Gaimard, 1824); not in Stresemann & Amadon (1979), but see Hellmayr & Conover (1949: 86).
b4	*Circus megaspilus* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 10.	A synonym of *Circus buffoni* (J. F. Gmelin, 1788); not in Stresemann & Amadon (1979), but see Swann & Wetmore (1925: 136).
b5	*Buteo ventralis* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 10.	Now *Buteo ventralis* Gould, 1837.
b6	*Otus* (*Brachyotus*) *galapagoensis* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 10.	Now *Asio flammeus galapagoensis* (Gould, 1837).

***Proc. Zool. Soc. Lond.*: Gould, 1837d** **Published not before 21 November 1837**

c1	*Caprimulgus bifasciatus* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 22.	Now *Caprimulgus longirostris bifasciatus* Gould, 1837.
c2	*Caprimulgus parvulus* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 22.	Now *Caprimulgus parvulus parvulus* Gould, 1837.

c3 *Hirundo frontalis* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 22. — This name is preoccupied by *Hirundo frontalis* Quoy & Gaimard, 1830, a different species. Gould's name is now a synonym of *Tachycineta leucorrhoa* (Vieillot, 1817); not listed in Peters (1960), but see Sharpe (1885: 118).

c4 *Hirundo concolor* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 22. — Now *Progne modesta modesta* Gould, 1838; see also below as this name comes from the plate and, corrected, from the later text. See also Dickinson (2003: 533 footnote).

c5 *Halcyon erythrorhynchus* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 22. — A synonym of *Halcyon leucocephala acteon* (Lesson, 1830). Gould's name was given, erroneously, as *Halcyon erythrogastra* by Sharpe (1892: 234). Not listed in Peters (1945), but see Grant (1915: 266).

Proc. Zool. Soc. Lond.: Gould, 1837e — **Published not before 21 November 1837**

d1 *Orpheus trifasciatus* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 27. — Now *Nesomimus trifasciatus trifasciatus* (Gould, 1837). Renamed *Mimus trifasciatus* by Gray in the 1839 text. Species since split (as in Dickinson 2003: 649).

d2 *Orpheus melanotis* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 27. — Now *Nesomimus trifasciatus melanotis* (Gould, 1837). Renamed *Mimus melanotis* by Gray in the 1839 text. Species since split (as in Dickinson 2003: 649).

d3 *Orpheus parvulus* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 27. — Now *Nesomimus trifasciatus parvulus* (Gould, 1837). Renamed *Mimus parvulus* by Gray in the 1839 text. Species since split (as in Dickinson 2003: 649).

Proc. Zool. Soc. Lond.: Gould, 1837f — **Published not before 21 November 1837**

e1 *Rhea Darwinii* Gould, 1837, *Proc. Zool. Soc. Lond.*, p. 35. — A synonym of *Pterocnemia pennata pennata* (d'Orbigny, 1834). For specific assignment see Mayr (1979: 6).

Proc. Zool. Soc. Lond.: Gould, 1838a — **Published not before 22 January 1838**

f1 *Pyrgita Iagoensis* Gould, 1838, *Proc. Zool. Soc. Lond.*, p. 77 (1837). — Now *Passer iagoensis iagoensis* (Gould, 1838), see Moreau & Greenway (1962: 16). Rendered as *jagoensis* in both plate and text in the *Zoology*, but in the plate named *Passer jagoensis*. Publication not before 25 May 1838 (Duncan 1937).

Names proposed in *The zoology of the voyage of HMS Beagle*, part 3

part 3, July 1838; Plates I–X, text pp. 1–16: Gould, 1838b — **Names deriving from the text**

g1 *Milvago leucurus* Darwin (ex Forster MS), in Gould, 1838, *Zool. Voy. HMS Beagle*, 3: 15. — A synonym of *Phalcoboenus australis* (J. F. Gmelin, 1788), see Sharpe (1874: 38). Cite as Darwin *in* Gould, 1838b.

part 3, July 1838; Plates I–X, text pp. 1–16: Gould, 1838b — **Names deriving from a plate**

g2 *CRAXIREX* Gould, 1838, *Zool. Voy. HMS Beagle*, 3: Pl. II. — Text part 9, p. 22. Not cited in Stresemann & Amadon (1979). New genus; dating from the plate. *Craxirex galapagoensis* (p. 23) was the new combination derived from *Polyborus galapagoensis* (see above).

g3 *Strix punctatissima* Gould & G.R. Gray, *in* Gould, 1838, *Zool. Voy. HMS Beagle*, 3. Pl. IV. Text part 9, p. 34. Peters (1940: 82) correctly and separately dated the plate and the text. Now (as explained here) *Tyto alba punctatissima* (Gould & G. R. Gray, *in* Gould, 1838b)

g4 *Progne modestus* nom. nov. Gould, 1838, *Zool. Voy. HMS Beagle*, 3. Pl. V. Now *Progne modesta modesta* Gould, 1838, but see also Dickinson (2003: 533). Note that Peters (1960: 88) cited the name *Progne modesta* using the spelling from the text (part 9, p. 39), but the plate antedates that and the original spelling is *modestus* as given here (notwithstanding the 'correction' in the 'facsimile' edition). New name for *Hirundo concolor* Gould, 1837, not *Hirundo concolor* Sykes, 1832.

g5 *PYROCEPHALUS* Gould, 1838, *Zool. Voy. HMS Beagle*, 3. Pl. VI. In Traylor (1979: 149) this name is cited, using the full form 'Gould in Darwin', from the text (part 9, p. 44) but the name on the two plates dates from 1838 not 1839, based on Plates VI and VII.

g6 *Pyrocephalus parvirostris* Gould, 1838, *Zool. Voy. HMS Beagle*, 3. Pl. VI. Text is from part 9, p. 44. Gould's name was treated as a synonym of *Pyrocephalus rubinus rubinus* (Boddaert, 1783) by Sclater (1888: 212). Not listed in Traylor (1979).

g7 *Pyrocephalus nanus* Gould, 1838, *Zool. Voy. HMS Beagle*, 3. Pl. VII. Now *Pyrocephalus rubinus nanus* Gould, 1838. In Traylor (1979: 150) the full attribution 'Gould in Darwin' is used; the second date shown '(1841)' is not correct, except as the date the whole work was completed, thus it is on the title page for the volume. The first date given is also wrong as the plate appeared in 1838 and the text in 1839 (part 9, p. 45).

g8 *Tyrannula magnirostris* Gould, 1838, *Zool. Voy. HMS Beagle*, 3. Pl. VIII. Now *Myiarchus magnirostris* (Gould, 1838). In the text Gray renamed this *Myiobius magnirostris* in part 9, p. 48. The Plate List ignored this. In Traylor (1979: 204) the full attribution 'Gould in Darwin' is used.

g9 *Lichenops erythropterus* Gould, 1838, *Zool. Voy. HMS Beagle*, 3. Pl. IX. A synonym of *Hymenops perspicillata perspicillata* (J. F. Gmelin, 1789); corrected to *Hymenops perspicillatus* in Dickinson (2003: 370) following David & Gosselin (2002: 278). Not listed in Traylor (1979) but see Sclater (1888: 48). Text is from part 9, p. 52.

g10 *Fluvicola azarae* Gould, 1838, *Zool. Voy. HMS Beagle*, 3. Pl. X. A synonym of *Xolmis dominicana* (Vieillot, 1823). Not listed in Traylor (1979) but see Sclater (1888: 13). Text is from part 9, p. 53. Dickinson (2003: 371) followed Lanyon (1986: 47) and employed the monotypic genus *Heteroxolmis*.

part 6, January 1839; Plates XI–XX; text pp. 17–32: Gould, 1839a

Names deriving from the text

None.

part 6, January 1839; Plates XI–XX; text pp. 17–32: Gould, 1839a

Names deriving from a plate

h1 *AGRIORNIS* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XII. Correctly cited from these plates (XII and XIII) in Traylor (1979: 165) where attributed to 'Gould in Darwin'. In the Corrigenda in 1841 the genus *Agriornis* was considered to be a synonym of *Dasycephala* Swainson. The text was published in part 11, p. 56.

h2 *Agriornis micropterus* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XII. Now *Agriornis microptera microptera* Gould, 1839; corrected to *A. micropterus* by Dickinson (2003: 371) following David & Gosselin, 2002: 275). Cited in Traylor (1979: 167) as attributable to 'Gould in Darwin', and by implication the text might be assumed to have appeared at the same time; in fact the text (p. 57) appeared in part 11, ten months later. In the Corrigenda, in 1841, Gray considered this name to have been applied to the juvenile of *A. striata* and thus placed it in

		the synonymy of *Dasycephala striata*. Note, however, that *micropterus* dates from January 1839 and *striatus* from July 1839.
h3	*Agriornis leucurus* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XIII,	Now *Agriornis montana leucura* Gould, 1839; corrected to *A. montanus leucurus* in Dickinson (2003: 371) following David & Gosselin (2002: 275). Renamed *Agriornis maritimus* in part 11, in November (see below); this change is not mentioned in the List of Plates. The text was published in part 11, p. 57.
h4	*PACHYRAMPHUS* Gould & G. R. Gray, *in* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XIV.	Gould had intended to use the generic name *Pachyrhynchus* (see text, part 9, p. 50). Gray considered that to be inapplicable and applied *Pachyramphus*, and then later introduced this generic name in 1840 (in his *List Genera Birds* p. 31); which has since been mistakenly thought to be its first usage (Snow 1979: 229). See our text for implications.
h5	*Pachyramphus albescens* Gould & G. R. Gray, *in* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XIV.	A synonym of *Suiriri suiriri suiriri* (Vieillot, 1818); as listed in Traylor (1979: 20) where the name *albescens* was attributed to 'Darwin' (as regards the validity of this attribution see below under *Myiobius parvirostris* and in main text). Gould's MS name was *Pachyrhynchus albescens*. Text, part 9, p. 50.
h6	*Pachyramphus minimus* Gould & G. R. Gray, *in* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XV.	A synonym of *Polystictus pectoralis pectoralis* (Vieillot, 1817). Not listed in Traylor (1979: 50). Gould's MS name was *Pachyrhynchus minimus*. Text, part 9, p. 51. Placed in synonymy by Sclater (1888: 96); this was rebutted by Allen (1889), but established by Cory & Hellmayr (1927: 365).
h7	*Opetiorhynchus lanceolatus* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XX.	In the text, part 9 p. 68, this is renamed *Opetiorhynchus nigrofumosus*; this is a nov. comb. based on '*U*[*ppucerthia*] *nigro-fumosa*' d'Orbigny et Lafresnaye, 1838 (p. 23), and the correction is mentioned in the List of Plates. In the Corrigenda, Darwin noted that Gray had changed the name to *Cinclodes fuliginosus*. *O. lanceolatus* is a synonym of *Cinclodes nigrofumosus* (d'Orb. & Lafr., 1838), not listed by Peters (1951: 68), but see Sclater (1890: 22).
	part 9, July 1839; Plates XXI–XXX; text pp. 33–56: Gould, 1839b	**Names deriving from the text**
-	[*Pyrocephalus coronatus* 'Auct.', *Zool. Voy. HMS Beagle*, 3. 45.]	Traylor (1979: 151) treated this as *Pyrocephalus rubinus major* Pelzeln, 1868. Traylor correctly cited the name used in the *Voyage* as '*Pyr*[*ocephalus*] *coronatus* or *Muscicapa coronata* of authors' and used the full attribution 'Gould in Darwin'; the second date shown '(1841)' is not correct, except as the date the whole work was completed, this is on the title page for the volume. We do not consider that Gould and Gray proposed the name *coronatus* as new.
i1	*Pyrocephalus obscurus* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 45.	Now *Pyrocephalus rubinus obscurus* Gould, 1839. In Traylor (1979: 151) the full attribution 'Gould in Darwin' is used; the second date shown '(1841)' is not correct, except as the date the whole work was completed, thus it is on the title page for the volume. We found no internal evidence of Gray's involvement in this name.
i2	*Pyrocephalus dubius* Gould & G. R. Gray, *in* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 46.	Now (based on this paper) *Pyrocephalus rubinus dubius* Gould & G. R. Gray, *in* Gould, 1839. In Traylor (1979: 151) the full attribution 'Gould in Darwin' is used; the second date shown '(1841)' is not correct, except as the date the whole work was completed, thus it is on the title page for the volume. Note our different opinion as to authorship.
i3	*MYIOBIUS* G.R. Gray, *in* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 46	This generic name was proposed as a replacement for *Tyrannula* Swainson, 1827, which was thought to be a homonym of, and preoccupied by, *Tyrannulus* Vieillot, 1816. See ICZN, 1956 (Opinion

		414). Traylor (1979: 116) cited Darwin as the author, this having been used by Zimmer when proposing to the ICZN that this generic name be validated and *Tyrannula* suppressed. See our text for reasons to recognise Gray as the author. In the New York University Press facsimile the name is misspelled *Myiobus* (p. 57 in facsimile; p. 46 in original).
i4	*Myiobius auriceps* Gould & G. R. Gray, *in* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 47.	Now (based on this paper) *Myiophobus fasciatus auriceps* (Gould & G. R. Gray, *in* Gould, 1839). In Traylor (1979: 123) the full attribution 'Gould in Darwin' is used. Gould's MS name was *Tyrannula auriceps*. Note that recognition of dual authorship is recommended due to the involvement of Gould in the drafting and the provision of the specific name.
i5	*Myiobius parvirostris* Gould & G. R. Gray, *in* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 48.	Now (following this paper) *Colorhamphus parvirostris* (Gould & G. R. Gray, *in* Gould, 1839). In Traylor (1979: 158) this, named *Ochthoeca parvirostris*, was attributed to Darwin. Gould's MS name was *Tyrannula parvirostris*. Note that recognition of dual authorship is recommended due to the involvement of Gould in the drafting and the provision of the specific name. If Darwin's role, as 'superintendent' and editor were recognised here then logic would demand he be recognised as a co-author of every new name in this work and this was clearly not his intent. It is correct, however, to use the full attribution, i.e. '*in* Darwin', where space permits. See Dickinson (2003: 373) for use of the genus *Colorhamphus* following Lanyon (1986: 30).
i6	*SERPOPHAGA* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 49	In Traylor (1979: 39) correctly attributed to 'Gould, 1839, in Darwin'.
i7	*Serpophaga albo-coronata* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 49.	A synonym of *Serpophaga subcristata straminea* (Temminck, 1822); as listed in Traylor (1979: 42), with a query, where the full attribution 'Gould in Darwin' is used; the second date shown '(1841)' is not correct, except as the date the whole work was completed, thus it is on the title page for the book.
i8	*Agriornis striatus* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 56.	Although not given in Traylor (1979: 167), a synonym of *Agriornis microptera microptera* Gould, 1839; suffix corrected to '*-us*' in Dickinson (2003: 371) following David & Gosselin (2002: 275). In the Corrigenda to the *Zoology*, Gray (1841) made *micropterus* 'juv' a synonym of *striatus*. The name *striatus* was indeed bestowed on the adult, but the name *microptera* has priority.

part 9, July 1839; Plates XXI–XXX; text pp. 33–56: Gould, 1839b		**Names deriving from a plate**
i9	*EREMOBIUS* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXI.	Peters (1951: 64) cited this from the text (p. 69) but that is from part 11, and the name dates from the plate in part 9. No change in year to be cited.
i10	*Eremobius phoenicurus* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXI.	Now *Eremobius phoenicurus* Gould, 1839. Peters (1951: 64) cited this giving both the plate number and the text page (69) as if they appeared together. However the plate had four months priority (the year date does not change). In the Corrigenda (1841) the generic name was changed to *Enicornis* Gray (see below).
i11	*Synallaxis major* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXII.	Now a synonym of *Anumbius annumbi* (Vieillot, 1817). Not listed by Peters (1951: 114), but see Cory & Hellmayr (1925: 168). In the Corrigenda (1841), Gray made this a synonym of *Anthus acuticaudatus* Lesson, 1831. Text, part 11, p. 76.

i12 *Synallaxis rufogularis* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXIII.
Now in the synonymy of *Asthenes anthoides* (King, 1831), see Sclater (1890: 70). Generic name spelled *Synalaxis* [*sic*] on the original plate ('corrected' on the facsimile). Text, part 11, p. 77.

i13 *Synalaxis* [*sic*] *flavogularis* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXIV.
Now *Asthenes pyrrholeuca flavogularis* (Gould, 1839). In Peters (1951: 104) the attribution is in full, to 'Gould in Darwin'; it is also presented as if the plate and text appeared together. The text (p. 78) appeared later in part 11. The year date remains 1839, but the citation should be to the plate. Generic name spelled *Synalaxis* [*sic*] on the original plate ('corrected' on the facsimile). Olrog (1962: 117) made *flavogularis* a synonym of nominate *pyrrholeuca*, as did Dickinson (2003: 406).

i14 *LIMNORNIS* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXV.
The citation in Peters (1951: 72), where attribution is to 'Gould in Darwin', is to the text (p. 80); the plate was four months earlier and should be cited. The year date of the name remains the same.

i15 *Limnornis curvirostris* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXV.
The citation in Peters (1951: 72), where attribution is to 'Gould in Darwin', is to the text (p. 81) and plate, but the plate was earlier (see above).

i16 *Limnornis rectirostris* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXVI.
Now *Limnoctites rectirostris* (Gould, 1839), but restored to *Limnornis* in Dickinson (2003: 412), based on Vaurie (1980: 211, 214). Olson *et al.* (2005) recently re-established the genus *Limnoctites* based on molecular systematics. The citation in Peters (1951: 96), where attribution is to Gould *in* Darwin, is to the text (p. 80) and plate, but the plate was earlier (see above).

i17 *DENDRODRAMUS* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXVII.
Text, part 11, p. 82. A generic synonym of *Pygarrhichas* Burmeister, 1837. Not listed in Peters (1951: 147), but see Sclater (1890: 126).

i18 *Dendrodramus leucosternus* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXVII.
Text, part 11, p. 82. A synonym of *Pygarrhichas albogularis* (King, 1831), not listed in Peters (1951: 148), but see Sclater (1890: 126).

i19 *Sylvicola aureola* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXVIII.
Now *Dendroica petechia aureola* (Gould, 1839). The citation in Lowery & Monroe (1968: 19), where attribution is to 'Gould in Darwin', is to the text (p. 86) and plate, but the plate was earlier (see above).

i20 *Ammodramus longicaudatus* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXIX.
Text, part 11, p. 90. Now a synonym of *Donacospiza albifrons* (Vieillot, 1817), not listed by Paynter (1970: 112), but see Sharpe (1888: 766).

i21 *Ammodramus xanthornus* Gould, 1839, *Zool. Voy. HMS Beagle*, 3. Pl. XXX.
Now (after this paper) *Myospiza humeralis xanthornus* (Gould, 1839), if treating this species in the genus *Myospiza* as did Dickinson (2003: 785). Paynter (1970: 80) listed this as '*Ammodramus humeralis xanthornus* Darwin (ex Gould MS)' from both text (p. 90) and plate, but the plate preceded the text, in part 11, by four months. Gould, however, had sole responsibility for the plate, which has priority and the authorship must be corrected. The substitute name *Ammodramus manimbe* (Gray, 1839) is a junior synonym.

part 11, November 1839; Plates XXXI–XL; text pp. 57–96: Gould, 1839c **Names deriving from the text**

- [*Agriornis maritimus* G. R. Gray, *in* Gould 1839, *Zool. Voy. HMS Beagle*, 3: 57.]
Now *Agriornis montana leucura* Gould, 1839a; corrected to *A. montanus leucurus* in Dickinson (2003: 275) following David & Gosselin (2002: 275). Gray (p. 57) renamed *Agriornis leucurus* Gould, 1839a, calling it *Agriornis maritimus*. This new combination was based on *Pepoaza maritima* d'Orbigny & Lafresnaye, 1837, which Gray

considered Darwin's material to be (but d'Orbigny & Lafresnaye's name was based on Bolivian birds and Darwin's was from Patagonia, and is now considered distinct). In the Corrigenda, in 1841, the genus *Agriornis* was considered a synonym of *Dasycephala* Swainson; this species was then renamed *Dasycephala maritima*.

j1 *Synallaxis brunnea* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 78.
Now a synonym of *Asthenes pyrrholeuca flavogularis* (Gould, 1839), not listed by Peters (1951: 104), but see Cory & Hellmayr (1925: 134). When placed in the synonymy of *flavogularis* there is no problem over priority; *flavogularis* dates from the plate (July 1839) and *brunnea* from the text (November 1839). Dickinson (2003: 406) submerged this subspecies within nominate *pyrrholeuca* (see above).

j2 *Muscisaxicola brunnea* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 84.
The type specimen is missing or lost, and the description insufficient for this name to be safely placed in synonymy. The name must be treated as indeterminate; see Sclater (1888: 53, footnote).

j3 *Melanocorypha cinctura* Gould, 1839, Zool. Voy. HMS Beagle, 3: 87.
Now *Ammomanes cincturus cincturus* (Gould, 1839); suffix corrected to give *cinctura* in Dickinson (2003: 545) following David & Gosselin (2002: 276). In Peters (1960: 32), where attributed to 'Gould in Darwin', the date cited is wrong and relates to the title page of the bound volume. This text appeared in November 1839.

j4 *Pyrrhalauda nigriceps* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 87.
Now *Eremopterix nigriceps nigriceps* (Gould, 1839). In Peters (1960: 31), where attributed to 'Gould in Darwin', the date cited is incorrect and relates to the title page of the bound volume. This text appeared in November 1839.

j5 *Spermophila nigrogularis* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 88.
Now a synonym of *Sporophila caerulescens caerulescens* (Vieillot, 1823), not listed in Paynter (1970: 142), but see Sharpe (1888: 126).

j6 *Crithagra* ? *brevirostris* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 88.
Now a synonym of *Sicalis luteola luteiventris* (Meyen, 1834); see Sharpe (1888: 382) and Hellmayr (1938: 330).

j7 *Chrysometris* [*sic*] *campestris* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 89.
Now a synonym of *Carduelis barbata* (Molina, 1782), not listed by Howell *et al.* (1968: 245), but see Sharpe (1888: 216).

j8 *Zonotrichia canicapilla* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 91.
Now a synonym of *Zonotrichia capensis australis* (Latham, 1790); not listed by Paynter (1970: 58), but see Hellmayr (1938: 578).

j9 *Zonotrichia strigiceps* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 92.
Now *Aimophila strigiceps strigiceps* (Gould, 1839); see Paynter (1970: 94) where attributed to 'Gould in Darwin'; the second date given '(1841)' is misleading and is merely the date from the title page of the complete volume.

j10 *Fringilla formosa* Gould, 1839, *Zool. Voy. HMS Beagle*, 3: 93.
A senior synonym of *Phrygilus patagonicus* Lowe, 1923, see Paynter (1970: 105); sometimes treated as a race of *Phrygilus gayi* Gervais, 1834. In Paynter (1970) mistakenly dated 1841, presumably based on the title page of the complete volume. Text p. 93 is in part 11 and must be dated 1839. The name *formosa* is preoccupied in *Fringilla* by *Fringilla formosa* Latham, 1790, and is thus unavailable.

part 11, November 1839; Plates XXXI–XL; text pp. 57–96: Gould, 1839c **Names deriving from text and a plate**

j11 *Chlorospiza* ? *xanthogramma* & G. R. Gray, *in* Gould, 1839,
Now (after this paper) *Melanodera xanthogramma xanthogramma* (Gould & G. R. Gray, *in* Gould, 1839). Paynter

Zool. Voy. HMS Beagle, 3: 96, Pl. XXXIII.

(1970: 109) gave 'G.R. Gray in Darwin' and correctly cited from text and plate. As Gould was responsible for the 'Birds' and for this plate, which appeared with and is integral to the description, we consider him a co-author of this name.

part 15, March 1841; Plates XLI–L; text pp. 97–164: Gould, 1841

Names deriving from the text (except Corrigenda)

k1 *Emberizoides poliocephalus* G.R. Gray, *in* Gould, 1841, *Zool. Voy. HMS Beagle*, 3: 98.
A synonym of *Embernagra platensis platensis* (J. F. Gmelin, 1789); not listed by Paynter (1970: 131), but see Sclater (1888: 758).

k2 *Picus kingii* nom. nov. G. R. Gray, *in* Gould, 1841, *Zool. Voy. HMS Beagle*, 3: 113.
Proposed as a new name for *Picus melanocephalus* King, 1831, but we have not found that name to be preoccupied. Now in the synonymy of *Dendrocopos lignarius* (Molina, 1782), see Hargitt (1890: 257).

k3 *Squatarola fusca* Gould, 1841, *Zool. Voy. HMS Beagle*, 3: 126.
Not cited in Peters (1934). A synonym of *Zonibyx modestus* (Lichtenstein, 1823); see Sharpe (1896: 238), i.e. a synonym of *Charadrius modestus* Lichtenstein in Dickinson (2003: 137).

k4 *Totanus fuliginosus* Gould, 1841, *Zool. Voy. HMS Beagle*, 3: 130.
Not cited in Peters (1934). A synonym of *Heteroscelus incanus* (J. F. Gmelin, 1789), see Sharpe (1896: 453).

k5 *Porphyrio simplex* Gould, 1841, *Zool. Voy. HMS Beagle*, 3: 133.
Not cited in Peters (1934). The type is missing and identity to species is uncertain. Based on Darwin's stated 'habitat' this is likely to be *Porphyrula alleni* (Thomson, 1842); see Olson (1973).

k6 *Larus fuliginosus* Gould, 1841, *Zool. Voy. HMS Beagle*, 3: 141.
Peters (1934: 314) used the full attribution 'Gould in Darwin'.

part 15, March 1841; Plates XLI–L; text pp. 97–164: Gould, 1841

Names deriving from text and a plate

k7 *Zenaida galapagoensis* Gould, 1841, *Zool. Voy. HMS Beagle*, 3: 115, Pl. XLVI.
Now *Nesopelia galapagoensis galapagoensis* (Gould, 1841); in Peters (1937: 88) this name is erroneously dated 1839, presumably in the belief that text p. 115 was issued in part 9. Dickinson (2003: 166) recognised the genus *Zenaida*.

k8 *Zapornia notata* Gould, 1841, *Zool. Voy. HMS Beagle*, 3: 132, Pl. XLVIII.
Now *Coturnicops notata notata* (Gould, 1841), suffix changed to '*-us*' by Dickinson (2003: 117) to reflect masculine gender; Peters (1934: 193) used the full attribution 'Gould in Darwin'.

k9 *Zapornia spilonota* Gould, 1841, *Zool. Voy. HMS Beagle*, 3: 132, Pl. XLIX.
Now *Laterallus spilonotus* (Gould, 1841); Peters (1934: 190) used the full attribution 'Gould in Darwin'.

Names deriving from the List of Plates or the Corrigenda: Darwin, 1841.

k10 *ENICORNIS* G. R. Gray, *in* Darwin, 1841, *Zool. Voy. HMS Beagle*, 3: [unpag.] Corrig.
Proposed as a generic name to accommodate *Eremobius phoenicurus* Gould, 1839. Gray believed the name *Eremobius* had been 'previously employed'. The name *Enicornis* does not seem to have been used.

Acknowledgements

Special thanks are due to Alun Ford and Roy Moxham at the library of the University of London and to Richard Goulden and Lisa Donnelly at the British Library. We are also grateful to the librarians at The Natural History Museum, South Kensington and Tring, for their assistance. We must thank Steven Gregory for checking the Internet to determine what other editions exist and for discussions in connection with the attributions and dating of the generic names *Pachyramphus* and *Myiobius*, and for agreeing to prepare and submit the appropriate application to the ICZN. Finally, we thank Murray Bruce, Christiane Quaisser, Mary LeCroy and Siegfried Eck for their helpful comments on a draft of this paper. We dedicate this paper to Dr Siegfried Eck (1942–2005) who, only weeks after refereeing this paper, sadly died. We shall miss him.

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Two new hummingbirds for Colombia, Many-spotted Hummingbird *Taphrospilus hypostictus* and Violet-chested Hummingbird *Sternoclyta cyanopectus*

by Sergio Córdoba-Córdoba & María A. Echeverry-Galvis

Received 4 August 2005

In recent years the east slope of the Cordillera Oriental of Colombia has yielded both species new to science (Stiles 1992), and many new records and range extensions (e.g. Andrade & Lozano 1997, Salaman *et al.* 2002, Córdoba & Ahumada 2005). For the past decade, ornithologists have been working intensively on this slope, but much remains to be learned. Whilst examining hummingbird specimens recently collected during biodiversity inventories, we found two not previously recorded in Colombia.

The first Colombian specimen (and record) of Many-spotted Hummingbird *Taphrospilus hypostictus* (sometimes placed in *Leucippus*: Schuchmann 1999) concerns a male held in the ornithological collection of the Instituto Alexander von Humboldt (IAvH). Specimen IAvH-A 11344 has left testis of 2.2 × 1.6 mm and was collected by A. M. Umaña, S. Sierra & F. Forero, at Vereda La Esmeralda, on the upper río Yurayaco, municipality of San José de Fragua, dpto. Caqueta, Colombia (01°20'N, 76°06'W), at 1,000 m, on 5 September 2000. Weight 9 g. Bare parts: iris brown, bill pinkish-rose two-thirds from base of mandible, tip and maxilla black. Tissue sample BT-IAvH 0746 is held in the IAvH Tissue Collection and Molecular Laboratory, CIAT Facility, Palmira, Valle del Cauca, Colombia. The specimen marks a northward range extension for this species of 160 km on the east slope of the Cordillera Oriental of Colombia from the Ecuadorian border. The collecting site lies in steep terrain subtropical forest with a canopy height of 20–22 m, frequent treefall gaps and dense understorey. In Ecuador, it is rare to locally common in foothills on the east slope at 500–1,200 m (Ridgley & Greenfield 2001), but seems commonest in the south, around Zamora.

The second species, Violet-chested Hummingbird *Sternoclyta cyanopectus*, is represented by three specimens (two females and a male), also in IAvH. Specimen IAvH-A 10863 is a male, with left testis 3.0 × 2.3 mm, collected by A. M. Umaña, S. Sierra & M. Álvarez, at Vereda El Diamante, near the río Negro, municipality of Toledo, dpto. Norte de Santander, in the National Natural Park Tamá (07°07'N, 72°14'W), at 1,100 m, on 26 September 1999. Weight 8 g. Bare parts: iris brown, bill black and feet grey. Tissue sample BT-IAvH 097 is deposited in the IAvH Tissue Collection. Specimen IAvH-A 10893 is a female (no gonad data), collected by A. M. Umaña, S. Sierra & M. Álvarez, at Vereda El Diamante, Cerro San Agustín, municipality of Toledo, dpto. Norte de Santander, in the National Natural Park Tamá (07°06'N, 72°13'W), at 1,500 m, on 28 September 1999. Weight 4 g. Bare parts as

the previous specimen, but feet dark grey. IAvH-A 10912 is another female, with ovary 3.9 × 3.4 mm, taken by the same collectors, at the same locality as IavHA 10893, at 1,250 m, on 30 September 1999. Weight 7 g. Bare parts as the previous specimen. All three were caught in mist-nets placed inside forest. The species had been expected to occur in Colombia, as it has been recorded near Táchira, Venezuela, close to the border (Hilty & Brown 1986, Heynen 1999). These specimens confirm the species' presence in Colombia, although its range may be restricted to the upper half of the east slope of the Cordillera Oriental, as it has not been reported from other suitable localities already sampled, e.g. Cusiana (Boyacá), Santa María or Medina (Cundinamarca), at altitudes where the species might be expected (Salaman *et al.* 2002, SC pers. obs.). In Venezuela, the species inhabits premontane forest with abundant *Heliconia* spp., occasionally in coffee plantations, at 700–2,000 m (Hilty 2003).

New species for the country may still be awaiting recognition in Colombian natural history collections. A wealth of new data have been published in recent years and study of bird specimens already deposited in such institutions will doubtlessly continue to yield new information using standard and newer methodological tools, such as DNA analysis, if research is promoted.

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The correct name of the Sri Lankan Woodpigeon and the citation for its original description

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Received 10 August 2005

The endemic Sri Lankan Woodpigeon is listed as *Columba torringtoni* Bonaparte, 1854, by Peters (1937). The citation is preceded by another citation from 'Kelaart, 1852' where the name used was *Palumbus torringtonii* and this was given as a *nomen nudum*. However, Warren (1966) credited authorship to Kelaart, 1853, citing the spelling as *torringtonii* and 'Kelaart, 1853 in Blyth, *Prodromus Faunæ Zeylonicæ*; Appendix C: 35 (published in *J. r. Asiat. Soc. Ceylon Branch*, 11 (1853), pt. 1).' To cite this Warren must have found a description. Despite this, the name has continued to be attributed to Bonaparte (Goodwin 1967, Phillips 1978, Ripley 1982, Dickinson 2003).

The *Prodromus Faunæ Zeylonicæ*, of Kelaart, is a rare publication and details of its composition, issue (perhaps in parts) and dates of publication are all disputed. So much so that the comments of our referees led us to abandon any attempt to present such details as we have developed from copies examined in London, India and Sri Lanka. There is, we confess, no certainty to be presented.

However, we will state our convictions briefly. Part of the work was printed in 1852 and the title page is dated 1852. There is no evidence known to us that proves that it was published before 1853. Taylor (1947) concluded that 'Volume I was almost certainly published in 1853 and Vol. II in 1854'. We accept those dates. Taylor also referred to the appendices, the pages that concern us, considering them to be part of Vol. I, and included 'The Catalogue of Birds' stating that this was 'taken from the January 1852 issue of the Jour. Ceylon Asiatic Soc. which makes it certain that the book was not published in 1852'[1]. Although some parts of the *Prodromus* were previously published in the *Journal of the Ceylon Branch of the Royal Asiatic Society*, and the 'Catalogue of Ceylon Birds' by Kelaart & Layard (1853a,b)[2] is such a part, this is not relevant to the description of the pigeon.

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[1] Some may feel that 'the book', i.e. vol. I, appeared in parts. This might lead one to an earlier date of publication of the name of this pigeon, but we do not claim that. The List of Contents seen by us has five entries under 'Appendix' the last being 'Mr. Blyth's notes on Ceylon Mammals, Reptiles etc.'. If this volume appeared in parts, a part (perhaps part 1), may have concluded at the end of this, which is p.50 of the separate pagination afforded the appendices, but may have included the next four pages which appear to belong to the same signature (or printed page before folding and cutting). The four extra pages contain two letters dated December 1852 which add to our comfort with Taylor's conclusion that 1853 is the date for these pages.

[2] This comprises pp.55–62 of the *Prodromus* but originated in the Journal of the Ceylon Branch of the Royal Asiatic Society where it appeared in two parts, one in each of the first two issues of vol. II. The pagination and dates of those issues making up Vol. II of that journal are apparently as follows: 1. pp.1–56 (1853); 2. pp.57–96, i–lxii; 3. 97–181, lxiii–cxix (1855). These probably appeared as Parts VI, VII and VIII (before it was decided that they formed a separate volume). Within the journal there are minutes of meetings that offer evidence as to the approximate dates of publication of issues 1 and 2.

The acceptance of 1853[3], rather than 1854 relies on the minutes of a committee meeting held on 21 December 1853 (Lamprey, 1855), which record that 'A letter from Dr. Kelaart was read and laid on the table, stating, that he had been at great expense in publishing, and requesting that the Society would accept copies of his work in lieu of subscriptions due. It was then moved and agreed to, that two copies of his publication be received, in lieu of all past arrears of subscription due by him to the Society, and that a recommendation be made by the Committee at the next General Meeting, that he be made a Corresponding member of the Society.'

The first description of the woodpigeon appeared in Blyth (1851) where Blyth named it '*Palumbus elphinstonei* (?, Sykes), var?' and no new name was therefore introduced. As mentioned, earlier authors thought that the name dated from the pages of the *Prodromus* and we have located it in several places: in Kelaart's 'The Natural History of Newera-Ellia' (p. xxx), in 'General features of the Ornithology of Ceylon' (p.107), and on p.130 in the 'Catalogue of Birds found in Ceylon', where the name, given there as *Carpophaga* (*Palumbus*) *Torringtonii* Kelaart, lacks a valid description as is the case in the earlier pages, and is thus a *nomen nudum*. In none of these three locations is there, in our view, an 'indication' (see Glossary p.107 in ICZN 1999) that suffices to lead one to Blyth's description. Thus at each of these places the name is a *nomen nudum*.

The nomenclatural act is to be found in the Appendix, labeled C where it begins (p.22), although not given as such in the list of Contents. This is the source of Warren's 'Appendix C'. She was wrong however to view this as something published in *J. r. Asiat. Soc. Ceylon Branch*[4], II (1853), pt. 1. It is not to be found there. A detailed examination of this Appendix reveals that whilst, its author may appear to be Blyth, it is in fact a compilation, with added remarks by Kelaart and the content is drawn from Blyth (1846, 1849 and 1851). Thus here, on p.35, we find the description of '*Palumbus elphinstonei* (?, Sykes), var?' exactly as given by Blyth (1851) but it is followed by 'Remarks.—This beautiful pigeon we have named after Lady Torrington—*P. Torringtonii*. It is easily distinguished from all others in the Island, from its large size and black crescentic shaped collar, edged and spotted with white.'[5]

Several conclusions may now be drawn. First, the original spelling was *torringtonii* as given by Warren (1966), second the emendation to *torringtoniae* by Holdsworth (1872) is correct; what the *International code of zoological nomenclature*, fourth edn. (ICZN 1999) calls an incorrect original spelling must be corrected (Art. 32.5.1)—in this case because the work itself shows that the taxon was named for Viscountess Torrington—and Art. 31.1 of the Code requires that the treatment of a personal name follow the rules of Latin grammar. Third, the

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[3] Also accepted by Pethiyagoda & Manamendra-Arachchi (1997).

[4] This is an inverted abbreviation of the journal title: Journal of the Ceylon Branch of the Royal Asiatic Society.

[5] Lady Torrington (Mary Anne) was the wife of George Byng, Seventh Viscount Torrington (1812–84), and Governor of Ceylon 29 May 1847–18 October 1850.

combination of the valid introduction of a new name (even if incorrectly formed) and Kelaart's simultaneous 'we have named …' must be taken to mean that the authors of the name are Blyth & Kelaart[6]. The correct citation is therefore: *Palumbus torringtonii* [*sic*] Blyth & Kelaart in Appendix C, p.35 in Kelaart ('1852'=1853) *Prodromus Faunæ Zoologicæ*; emended to *torringtoniae* by Holdsworth, 1872, *Proc. Zool. Soc. Lond.* p.466[7]. The Code (ICZN 1999) leaves authorship of emended names with the original describer. In a short citation, it is acceptable to use *Columba torringtoniae* (Blyth & Kelaart, 1853).

Acknowledgements

Aasheesh Pittie records his appreciation of the assistance given by Suhel Quader, Asad R. Rahmani (Director, Bombay Natural History Society [BNHS]), the librarian and staff of the BNHS library, the librarian and staff in the library of the Asiatic Society of Bombay, Bhavya Udeshi and Gehan D'Silva Wijeyeratne. Edward Dickinson thanks the librarians of The Natural History Museum (South Kensington & Tring) and James Jobling for useful discussion. We also acknowledge the major contribution to brevity of the anonymous referees.

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[6] Contrary to Kelaart & Layard (1853b) we place Blyth first because his description appeared ahead of Kelaart's provision of the name. There seems to be no reason to suggest that the 'we' was a 'Royal plural'.

[7] Salvadori (1893) cited p.694.

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The validity of the sunbird genus *Hedydipna*

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Received 1 September 2005

Since the publication of a monograph by Cheke & Mann (2001) on the sunbirds, spiderhunters, flowerpeckers and sugarbirds, all included within the Nectariniidae by those authors and by Sibley & Monroe (1990), the invalidity of *Hedydipna* has come to light.

Irwin (1999) separated Collared Sunbird (formerly known as *Anthreptes collaris*) and its allies from *Anthreptes*, placing them in *Hedydipna* Cabanis, 1850, the type species of which is *H. platura* Vieillot, 1819, by original designation (although Cabanis 1850 used the spelling *H. platyura*, whilst on the same line referring to *Cinnyris platura* Vieill.). *Hedydipna* had been used previously albeit without explicit rationale by *inter alia* Zedlitz (1910) for *H. p. adiabonensis*, Madaràsz (1915) for *H. danakilensis*, van Someren (1920) for *H. p. karamojensis* and Sclater (1930) and Mackworth-Praed & Grant (1955) for *H. platura*. However, both Sclater and Mackworth-Praed & Grant retained *collaris* in *Anthreptes*, treating *Anthodiaeta zambesiana* Shelley, 1880, as *Anthreptes collaris zambesiana* (Shelley 1880).

Fry *et al.* (2000) and Cheke & Mann (2001) followed Irwin (1999) in using *Hedydipna* for *collaris*, *platura*, *metallica* and *pallidigaster*. However, this was incorrect as, by 'position precedence' (ICZN 1999: 73, 295), *Anthodiaeta* has precedence over *Hedydipna* since Cabanis (1850) erected *Anthodiaeta* as a gen. nov. for *collaris* on the page prior to his description of *Hedydipna*. Roberts (1931, 1932)

presumably realised this when he used *Anthodiaeta* for his descriptions of *Anthodiaeta collaris zuluensis* and *A. c. chobiensis*, although he did not provide rationale. Also, Skead (1967) included *Anthodiaeta* in his synonymies of *Anthreptes* without mentioning *Hedydipna*. Given these precedents and Shelley's (1876–80) use of *Anthodiaeta zambesiana*, we conclude that *Anthodiaeta* should replace *Hedydipna*, if *collaris*, *platura*, *metallica* and *pallidigaster* are treated as congeneric.

Acknowledgements

We are very grateful to Edward Dickinson, Steven Gregory, Bob Dowsett and Alan Peterson for helpful discussions, suggestions and alerting us to references. Alison Harding and Effie Warr assisted with obscure references in the Ornithological Library, Tring.

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The natural history and conservation of *Acrocephalus rimitarae*, the endemic reed-warbler of Rimatara Island, Oceania

by Jean-Claude Thibault & Alice Cibois

Received 26 September 2005

With a small population on a single small island, Rimatara Reed-warbler *Acrocephalus rimitarae* is considered Vulnerable (BirdLife International 2004). Because of its morphological resemblance to two other taxa from the Pitcairn group (*A. taiti* on Henderson and *A. vaughani* on Pitcairn), it was described by Murphy & Mathews (1929) as a subspecies of *A. vaughani*. Subsequently, it was elevated to specific status on the basis of differences in coloration, which suggest substantial genetic differentiation as a result of the geographical isolation of Rimatara, *c.*2,500 km from the Pitcairn group (Graves 1992). Little is known of the life history of this insular endemic, and other data are very scattered (Holyoak & Thibault 1984, BirdLife International 2004). Here, we present new data on the Rimatara Reed-warbler collected during a visit to the island in 2004, which was conducted as part of a research programme on the systematics and evolution of *Acrocephalus* taxa endemic to eastern Polynesia.

Study site and methods

Situated in the Austral Islands (French Polynesia), Rimatara (22°40'S, 152°45'W) is a small (*c.*8.6 km^2) and low (max. elevation 84 m) island, *c.*160 km from its nearest neighbour, Rurutu. J-CT visited the island on 25 October–6 November 2004. Birds were caught with mist-nets, using pre-recorded songs. Because Rimatara Reed-warbler sings rarely, we used vocalisations from *Acrocephalus* populations on Tahiti and the Marquesas (McPherson 1995, pers. recordings) to attract individuals (mostly males, sexed by coloration and measurements). Each bird caught was measured and photographed in order to describe plumage patterns; this work was complemented by examination of specimens at the American Museum of Natural History (New York). The precise locations of occupied nests, families with fledglings and birds mist-netted were mapped using a Garmin e-trex Global Positioning System (GPS). Using MapInfo 5.0 software, a numeric topographic map and GPS coordinates, territories were mapped and distances between them calculated. We pooled breeding data for Palearctic reed-warblers *Acrocephalus* spp. (Cramp 1992) to approximate the mean length for incubation (14 days) and fledging (14 days), which figures were used to guess the laying date for the observed occupied nests and fledglings (young birds with short tails).

Results and discussion

Plumage

The three taxa of the *vaughani* group are characterised by their coloration, brownish grey to dark olive above and white to yellowish below, with partial albinism of wing- and tail-feathers, as well as body plumage (Murphy & Mathews 1929, Pratt *et al.* 1987). In *rimitarae*, we observed the following plumages which may be age-related: (i) uniformly brown above, whiter with cinnamon to variable extent on flanks and breast (<1 year), (ii) brownish grey to dark olive above, white to yellowish below, showing a variable but small number of white feathers (>1 year and breeding adults), (iii) mantle, scapulars, tail-feathers and underparts white (breeders), males exhibiting more white than females (Fig. 1). Age inferences are based on direct observations during field work for immatures and breeding adults, and gonad size and label information for specimens. The extent of albinism in Henderson Reed-warbler *A. taiti* is reportedly related to age and sex (Holyoak 1978, Graves 1992, Brooke & Hartley 1995).

Range and population

Rimatara Reed-warblers are found throughout the island, even in swamps (80 ha) and the central fern-covered hills (240 ha), but breeding occurs mainly in wooded

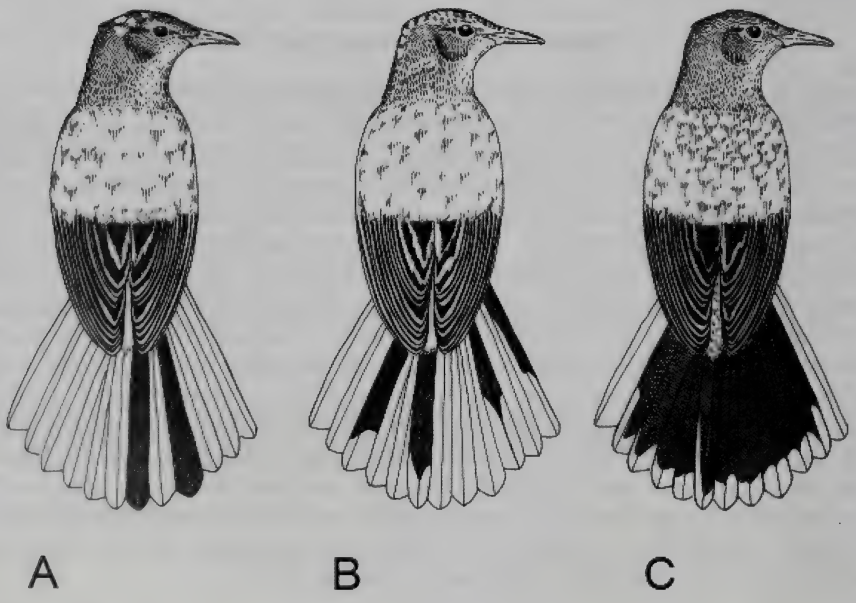

Figure 1. Plumage variation of Rimatara Reed-warbler *Acrocephalus rimitarae*, from mist-netted individuals. A, breeding male; B, breeding female; C, adult from a trio (A. Cibois).

areas such as the undergrowth of coconut groves, mixed horticulture (340 ha), coastal forest (30 ha) and natural forest on limestone substrates (170 ha) (Meyer *et al.* 2005). Nests, territorial birds captured or families observed were separated by a mean 96 m (± 26.9, *n*=17). Circular territories of radius 48 m have a mean size of *c*.0.72 ha. With a mean 2.37 birds per breeding group (see below), the breeding population in the 540 ha of suitable habitat would be 1,777 birds, or 2,567 if extrapolated to the 240 ha of less suitable habitat where fewer birds probably breed. However, based on transects, other authors give a notably lower estimate of the population: 2002, 740 birds (Sandford & Raust 2002) and 2004, 675 birds (Anon. 2005).

Song activity

Even in the breeding season, males sing regularly in early morning, in the evening, or during bright moonlit nights (pers. obs.) but rarely during midday. The 1920–23 Whitney South Sea Expedition (WSSE), conducted by the American Museum of Natural History, visited the island of Rimatara for eight days in March–April 1921. At that time, Quayle (ms) noticed that 'at daylight the warblers were chirping about'. Later he wrote: 'Here is a warbler singing with all the variation and harmony of Marquesan or Tahitian varieties'. The song can be described as a succession of low and short whistling notes (pers. obs.; it was unfortunately not possible to record songs during our field work). In comparison, reed-warblers from Tahiti (*A. caffer*), the Tuamotus (*A. atyphus*) or Marquesas (*A. mendanae*) produce a more powerful, longer and more elaborate song, at any time of day, less frequently at night (Holyoak & Thibault 1984), and at all seasons. Males from Pitcairn and Henderson have been reported not to sing (Nicoll 1904, Quayle ms, Mayr 1942, Williams 1960), but Graves (1992) considerered the series of thin and longer notes produce by males a song. Birds from Rimatara produce a variety of additional vocalisations similar to those of other Polynesian reed-warblers: alarm calls and contact calls by both sexes, and solicitation calls by both females and young (AC & J-CT unpubl.). It seems unlikely that the lack of strong and elaborate song in the *vaughani* group is related to their high density, as suggested by Graves (1992), because densities in Rimatara are similar to those in the Marquesas, where reed-warblers possess a long and elaborate song. The mean distance between singing birds on Nuku Hiva is 102 m (± 38.6, *n*=8) (pers. obs.), comparable to the value of 96 m (± 26.9) on Rimatara (see above).

Breeding

Nests were found in seven species of trees: *Hibiscus tiliaceus* (2), *Coffea arabica* (2), *Polyscias guilfoylei* (1), *Thespesia populnea* (1), *Syzygium jambos* (1), *Falcataria moluccana* (1) and *Citrus aurantifolia* (1). Most of these are introduced species. The nests were located at variable heights, with a mean of 5.2 m (± 3.7, *n*=9). They were on vertical branches, near the top of the vegetation and generally concealed by leaves. Nests were constructed of fibres of *Cocos nucifera*, *Pandanus*

tectorius and *Ceiba pentandra*, leaves of *Passiflora maliformis*, and were lined with finer material of the same plants. The mean dimensions of three nests were: height 12.5 cm, depth 5 cm, external diameter 10 cm. Position in the trees, shape and size did not differ from those of other Polynesian reed-warblers (Schreiber 1979, Holyoak & Thibault 1984, Graves 1992, Brooke & Hartley 1995).

We found two occupied nests and six broods of fledglings. According to the estimated mean lengths for incubation and for rearing, laying dates were calculated as being between 17 September and 19 October. In addition, we observed a recently completed nest, ready for eggs, on 3 November, and adults constructing a new nest on 2 November in another location. The only previous data concerned a complete clutch (of two eggs) on 10–11 December 1989 (Seitre & Seitre undated). No occupied nests were found in March–April (Quayle ms, Sandford & Raust 2002), or in August (Blanvillain 2002). Labels of most skins (21/25) in adult plumage, collected in March during the WSSE, indicate small gonads, only one being labelled 'large'. These observations suggest that the breeding period is well defined, and lasts from at least mid September until late December, which corresponds to the breeding period of Henderson Reed-warbler (Brooke & Hartley 1995) in the Pitcairn group and at a similar latitude. The number of chicks in occupied nests varied from one (n=1) to two (n=1), as did numbers of young in fledged broods (one fledgling n=5; two fledglings n=1). The deduced mean brood (1.25 ± 0.46 young, n=8) is lower than that of Henderson Reed-warbler (2.41 ± 0.62 young, n=17) (Brooke & Hartley 1995).

In two nests, we identified three different adults feeding the young, due to individual variation in partial albinism and a small mark we painted on the forehead of captured birds. Moreover, in response to playback within their territories, we noted 2–3 birds reacting simultaneously in 20 and 17 cases, respectively, suggesting a mean 2.37 birds per breeding group. Breeding in trios is known in several insular reed-warbler populations (Komdeur 1991), and has been observed in Henderson Reed-warbler (Brooke & Hartley 1995), whilst our data suggest such behaviour is common also for Rimatara Reed-warbler. Nevertheless, Pitcairn Reed-warbler seems to breed only in pairs possibly because of greater disturbance and inter-annual habitat changes on that island (Brooke & Hartley 1995).

TABLE 1
Data on the moult period of Rimatara Reed-warbler *Acrocephalus rimitarae* (see Moult section for classification).

Date	Age	No moult, fresh plumage	No moult, worn plumage	Remiges moulting
March 1921 (41 skins examined at AMNH)	> 1 year	5	0	20
	< 1 year	13	2	1
Oct.–Nov. 2004 (17 individuals trapped in the field)	> 1 year	0	9	0
	< 1 year	7	0	1

Moult

For the moult analysis, we distinguished two age categories: >1 year (= adult) and <1 year (immature). Adults correspond to sexually mature individuals identified by their exhibiting breeding behaviour, large gonad size or, outside the breeding season, by their plumage characteristics (large number of albinistic feathers). Immatures were identified by their plumage characteristics (absence of albinistic feathers) and small gonads. All adults caught during the breeding season, in October–November, had completely worn plumage, whereas 80% of adults collected in March (i.e. post-breeding) had flight-feathers in moult (Table 1). From these observations we deduce that the moult of Rimatara Reed-warblers is post-nuptial and seasonal for adults. Immatures had mostly fresh, non-moulting plumage both in March (81%) and October–November (87.5%).

Threats

Currently, Black Rat *Rattus rattus* is absent from Rimatara, but Polynesian Rat *R. exulans* and Norway Rat *R. norvegicus* have been introduced. Polynesian Rat was intentionally introduced by Polynesians hundreds of years ago and is not known to predate Polynesian reed-warblers (Thibault *et al.* 2002). Norway Rat was introduced much more recently, in the late 20th century (McCormack & Künzlé 1996), but we suspect it is not a threat to endemic landbirds as it does not climb trees. Domestic and feral cats are numerous throughout Rimatara, and possibly constitute a threat because reed-warblers often forage on the ground (pers. obs.). Cat eradication on Pitcairn, though ultimately unsuccessful, led to a temporary increase in reed-warbler populations (B. & D. Bell *in* BirdLife International 2000). Another important concern is the possibility of the arrival of the exotic Common Myna *Acridotheres tristis*, which is already present on the nearest islands of Rurutu and Tubuai. Indeed, all populations of Polynesian reed-warblers have decreased or vanished following its arrival (Cibois & Thibault in prep.). Should the species reach Rimatara, it would certainly place the reed-warbler population at risk, especially in open wooded areas, such as plantations or gardens, which have been colonised rapidly by mynas on other islands.

Beside the introduction of alien species, the major threat to Rimatara Reed-warbler is habitat destruction. Our observations suggest that reed-warblers require wooded areas for foraging and breeding, although they forage regularly in marshy areas. Most of the island consists of plantations and coconut groves with undergrowth, i.e. habitats relatively stable in distribution and suitable for reed-warblers, though people often use uncontrolled fires for clearing. Natural forest was restricted to a limestone area that constituted, until recently, *c.*21% of the total surface of the island (=170 ha). But the construction of an airport in 2002 resulted in the clearance of *c.*65 ha of the most representative part of this natural forest (i.e. 40% according to Meyer *et al.* 2005). Thus, we estimate that this area supported several dozen reed-warblers. Preservation of the island's remaining natural forest should be a priority in order to secure the future of Rimatara's endemic birds.

Acknowledgements

This is a contribution to the Biodiversity Inventory and Research Program of French Polynesia. The Research Delegation of the government of French Polynesia and the Louis Malardé Institute (Tahiti) organised and funded the multidisciplinary scientific expedition to Rimatara led by Jean-Yves Meyer. Permits to catch reed-warblers in French Polynesia, which are protected by law, were provided by the Direction of the Environment (Tahiti). Field work in French Polynesia in 2004 was further supported by the Swiss Academy of Sciences (by a travel grant), the G. & A. Claraz Foundation, the Basle Foundation for biological research, and the Natural History Museum of Geneva. We thank Joel Cracraft and Paul Sweet (American Museum of Natural History) for access to material in their care. Our visit benefited from a Collection Study Grant of the Frank M. Chapman Memorial Fund (AMNH). The manuscript was improved by remarks from Guy Dutson, Guy M. Kirwan, H. Douglas Pratt and an anonymous referee.

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First description of male Hoogerwerf's Pheasant *Lophura (inornata) hoogerwerfi* (Chasen, 1939), with notes on distribution

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Received 7 October 2005

Hoogerwerf's Pheasant *Lophura hoogerwerfi* is an enigmatic taxon, probably endemic to montane Aceh, northern Sumatra, Indonesia. More than 60 years since the first female was collected, we found several of these birds at a bird market in Medan, north Sumatra. Here, we present a brief overview of knowledge of this pheasant, provide a description of the adults (including the first complete description of the male) and review the species' distribution.

The taxon is known from only two female specimens; the holotype, collected by A. Hoogerwerf, on 24 April 1937, at 1,400 m, near Lake Meluwak in the Gayo Highlands, Aceh (Chasen 1939, Chasen & Hoogerwerf 1941), and one taken in March 1939 by Dillon Ripley (Meyer de Schauensee & Ripley 1940), also in the vicinity of Lake Meluwak, at 650 m. Male *L. hoogerwerfi* has hitherto not been collected. In the 1970s regular sightings were made by N. van Strien (pers. comm. 1998), including that of a nest with two eggs in the Mamas Valley, Gunung Leuser National Park, Aceh (van Marle & Voous 1988). He obtained photographs of the pheasants, revealing them to be uniformly brown in females and bluish black in males, like those of Salvadori's Pheasant *L. inornata,* which occurs further south in Sumatra. The appropriate taxonomy of the two forms is therefore unresolved (Delacour 1977, Holmes 1989, van Balen & Holmes 1993, McGowan & Garson 1995, MacKinnon *et al.* 1998).

On 14 September 1998, during a routine check of Medan bird markets to monitor wildlife trade, RS & CRS found two female pheasants that were initially thought to be *L. inornata.* They had arrived with a consignment from Aceh, and after checking MacKinnon & Phillipps (1993) and MacKinnon *et al.* (1998) we suspected that we were dealing with *hoogerwerfi* rather than *inornata.* Both were obtained and temporarily housed in Medan Zoo. On 25 September 1998, during another visit to these markets, we found a further female and three males. These four were also obtained for the zoo but, due to the poor health and inadequate care of all six birds whilst in the market, only one female and one male survived.

Pheasants of this type were encountered at Medan bird markets on three further occasions: on 6 October 1999 (two males and two females, recently trapped in Aceh and, according to the dealers, subsequently sold to a zoo in north Sumatra); on 19 and 26 October 1999, respectively two females and five pairs, which were sent alive to Pramuka bird market, in Jakarta. During regular surveys of these markets in 1996–2004 we only encountered *hoogerwerfi* on these five occasions, and never *inornata.* The four specimens (one prepared, three frozen) were sent with inter-provincial transport permits to Java, to the Zoological Museum (MZB), at Cibinong, West Java.

Hoogerwerf was unsure the bird he collected was the female of a new species, admitting that it might be an undescribed subadult form of *inornata* (Chasen & Hoogerwerf 1941). Thus, we present a description of the female *Lophura* from Aceh, based on the three new specimens, and examination of the type-specimen in the Rijksmuseum voor Natuurlijke Historie at Leiden (MZB 11744 / RMNH 140206) and that in the Academy of Natural Sciences at Philadelphia (ANSP 139170). The uniformity of the plumage of these five specimens, and recent breeders' experiences with subadult *inornata,* confirm the assertion of Chasen & Hoogerwerf (1941) that they had collected a female 'representative of an unknown form of pheasant,' and not an undescribed plumage of male or female *inornata,* in Aceh.

Adult male

The adult male's general appearance is deep black with a blue gloss, varying from dark blue on the neck to soft greenish blue on the flanks and upperparts; head crestless; feathers of upper head, neck, breast, flanks and tail-coverts have a broad metallic blue fringe, which is sharper and brighter on the wing-coverts; throat, primaries, secondaries, rectrices, abdomen and thighs dull black with little gloss; tail short and rounded. Soft parts: iris amber (orange-brown); feet grey, seemingly slightly paler than in the female; bill pale greyish horn; orbital skin crimson-red, larger than in female, extending past the base of the bill and becoming a short protruding wattle; narrow ring around the eye bright lemon-yellow, becoming a round spot of the same colour at the posterior angle of the eye and *c.*$^3/_4$ of the diameter of the eye.

The total length of *hoogerwerfi* males is significantly larger than females (t-test, $P<0.01$), whereas tarsus and gape size are also significantly larger in males (t-test, $P<0.005$ and $P<0.01$, respectively) (see Table 1).

Our description supports the statement that the male of *L. hoogerwerfi* is indeed 'not unlike males of the southern *L. inornata*' (Marle & Voous 1988), and indicates that males of the two forms are indistinguishable in the field. Photographs of two live specimens (male, female) were published by Sözer (1999).

TABLE 1

Measurements of all known specimens of Hoogerwerf's Pheasant *Lophura hoogerwerfi* collected in Aceh, northern Sumatra (mean±s.d.). The ANSP specimen was measured by Pamela Rasmussen, all others by RS. See text for institutional acronyms.

specimen	sex	total length (mm)	tail (mm)	wing (mm)	tarsus (mm)	bill (mm) gape/culmen		middle toe + claw (mm)	weight (g)	notes
RMNH 140206	F	-	-	206	68.0	30.0	-	50.0	-	type
ANSP 139170	F	357	170	203	62.9	-	16.8	58.3	-	
PKBI, Sukabumi*	F	422	146	227	61.7	31.4	29.9	55.3	-	live
MZB 30359	F	395	136.3	215	65.7	31.7	24.3	51.8	-	skin
MZB 30360	F	418	140.8	216	68.0	31.4	27.8	54.8	670	
MZB 30361	M	510	159.0	220	79.4	32.8	23.8	57.5	-	
MZB 30362	M	450	142.0	210	77.0	32.7	26.4	57.2	700	
PKBI, Sukabumi*	M	518	162.0	233	77.3	33.1	28.3	56.0	-	live
Mean	**F**	**398±29.8**	**148±15.0**	**213±9.5**	**65±2.9**	**31±0.8**	**25±5.8**	**54±3.2**	**670**	
Mean	**M**	**493±37.2**	**154±10.8**	**221±11.5**	**78±1.3**	**33±0.2**	**26±2.3**	**57±0.8**	**700**	

*PKBI is a private breeding centre in Sukabumi, West Java, Indonesia.

Adult female

Following a brief description of the type specimen by Chasen (1939), a more complete description of an adult female was given by Chasen & Hoogerwerf (1941). 'General colour brownish buff, dullest and brownest on the mantle and back, darkest on the upper and under tail coverts, brightest and tending to dark orange-buff on the breast and abdomen, and washed with rufous on the top of the head and on the wings. Chin and throat dirty white. Excluding the throat, but including the inner webs of the wing-quills and the under wing coverts, everywhere heavily vermiculated and stippled in a fairly uniform manner with black, finely on the mantle and back, more heavily on the outer edges of the primaries, and with a tendency for the markings to assume a more regular, transverse, crescentic form on the feathers of the lower breast, and to become narrowly bar-like on the crown. Tail, dull black, glossed with oily green: in some lights indistinct brown stippling can be made out on the edges of the centre tail feathers. Iris, brown; orbital skin, red; bill and feet, grey-green.' Meyer de Schauensee & Ripley (1940) stated that the specimen they collected was very uniform in colour, not showing any of the ochraceous striations either above or below described for *L. inornata;* 'It matches the description of Chasen's bird.' The collector (S. Dillon Ripley) furthermore wrote on the label 'Iris amber, feet dark blue, bill blue, skin around eye blood red.'

We judged the overall coloration of the three newly obtained females and the two earlier specimens, to be better described as a dull greyish brown. The vermiculations described above can only be distinguished when handling specimens or live birds, and are invisible at a distance. The tail is dull black, with little gloss.

The feathers, except the tail and wingtips, have a paler appearance, caused mostly by the gloss and to a lesser extent by the paler colour of the shaft region. The tail is short and held downward in live specimens, with the central rectrices longest. Soft parts are as follows: iris amber (orange-brown); feet slate to dark grey; bill greyish horn; orbital skin large and crimson-red with a lemon-yellow ring around the eye, becoming a round spot of the same colour at the posterior angle of the eye and *c.*$^2/_3$ of the diameter of the eye. This bicoloured orbital skin, with highly contrasting crimson and yellow in all freshly prepared specimens and live birds, is similar to that of *L. inornata* (Robinson & Kloss 1918), but was not described by Chasen & Hoogerwerf (1941) or Meyer de Schauensee & Ripley (1940), and is invisible in the type-specimen, presumably due to fading. The colours of the live female's feathers did not change following moults over 26 months, suggesting that all these birds were adults.

Geographic and altitudinal distribution

The specimens collected by Hoogerwerf and Ripley originated from around Lake Meluwak, near Kutacane town [Koetatjane], Gayo Highlands, Aceh, in northern Sumatra. N. van Strien observed the species in the Mammas River valley, which is *c.*10 km west to 20 km north-west of Lake Meluwak. According to the traders, the specimens met with by us were trapped by local people *c.*25–30 km inside the eastern boundary of Gunung Leuser National Park, in the montane area along the upper Alas River, just north of Mount Leuser, Gayo Range. The latter location is *c.*70 km north-west of the locality of the two original specimens. Thus, all records are from the Gayo Highlands, well within the boundary of the present Gunung Leuser National Park and, for now, the species should be regarded as endemic to the Gayo range. The northernmost record of *L. inornata* is at Mt. Singgalang, West Sumatra, and the distributions of *L. inornata* and *L. hoogerwerfi* are not known to overlap.

The type-specimen was collected at 1,400 m and the other allegedly at 650 m. However, as the altitude of the latter does not match that of the type-specimen, and as S. Dillon Ripley initially wrote 3,160 ft on the label (subsequently replaced with 2,100 ft; L. Joseph pers. comm.), we are inclined to believe that the actual locality of the second specimen might be *c.*950 m.

The observations of van Strien were at 1,200–2,000 m. The altitude where the specimens we encountered were trapped is unknown, though the consignments including these birds were said to originate from the upper Alas River, and always included lower montane Galliformes e.g. Grey-breasted Partridge *Arborophila* (*orientalis*) *rolli* and Bronze-tailed Peacock-pheasant *Polyplectron chalcurum.* Therefore, we suspect that the most probable altitudinal range of the species is 950–2,000 m, in the lower montane forest zone.

Acknowledgements

We thank Aviornis International—Netherlands for funding this part of our work in Indonesia and Richard Olsen for funding the larger framework. Furthermore, we thank Kees Roselaar of the Zoological Museum in Amsterdam (ISP-UvA) for technical assistance; Nico van Strien for his sightings data; Dr René Dekker of the Leiden Museum of Natural History (NATURALIS) for permitting us to study skins; Dr Pamela Rasmussen and Dr Leo Joseph for providing information and photographs of the specimen in Philadelphia; Ibu Sri (Director) and Pak Anhar Lubis (veterinarian) of Medan Zoo for providing temporary facilities for the live birds; Dr Siti Nuramaliati Prijono Lili, Pak M. Toha (taxidermist) and Dr Dewi M. Prawiradilaga of the Museum Zoologicum Bogoriense (MZB) at Cibinong for preparing the skins and samples; Dr Vincent Nijman for commenting on earlier drafts; and the Indonesian Institute of Sciences (LIPI) for research permits. Finally, we thank Pak Amir Hamza of SBKSDA Medan for necessary transport permits, and Pak Djuhaemi for taking good care of the live specimens at the Indonesian Breeding Centre for Endangered Bird Species (PKBI) in Sukabumi.

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Important ornithological records from Minas Gerais state, Brazil

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Received 11 November 2005

Minas Gerais state, in south-east Brazil, harbours a rich avifauna of almost 800 species (Mattos *et al.* 1993). Such high species richness is a result of the region's complex vegetation, as the state possesses Atlantic Forest, *Cerrado*, *Caatinga*, and transitional zones between these biomes. It is also one of the most mountainous areas of the country, with two main ranges: the Serra do Espinhaço and Serra da Mantiqueira, atop which can be found typical vegetation known, respectively, as rupestrian fields (*campos rupestres*) and high-altitude grasslands (*campos de altitude*). (Other habitat terms have been described in earlier papers, particularly Kirwan *et al.* 2001, 2004, to which readers are referred for further details.) Recently, new data concerning range extensions and noteworthy records for birds in Minas Gerais have been presented by several authors (e.g. Willis & Oniki 1991, Parrini & Pacheco 1997, Cordeiro *et al.* 1998, Machado *et al.* 1998, Melo Júnior *et al.* 1998, Silveira 1998, Vasconcelos & Lins 1998, D'Angelo Neto 2000, D'Angelo Neto & Queiroz 2001, D'Angelo Neto *et al.* 2001, Kirwan *et al.* 2001, 2004, Ribon & Maldonado-Coelho 2001, Raposo *et al.* 2002, Ribon *et al.* 2002, Vasconcelos *et al.* 2002a,b, 2003a,b, 2004, D'Angelo Neto & Vasconcelos 2003, 2004, Marini *et al.* 2003, Rodrigues & Gomes 2004, Vasconcelos & Silva 2004). Here, we present further new data on the distribution and, occasionally, for particularly poorly known birds, behaviour of 42 bird species in Minas Gerais, of which at least three are certainly new for the state and several are globally threatened (BirdLife International 2004).

Methods

Field records were obtained from the following principal study localities in Minas Gerais:

Serra da Canastra National Park (20°15'S, 46°40'W), São Roque de Minas municipality: a protected area covering *c.*200,000 ha with *cerrado*, *campo rupestre*, gallery forests and marshes (elevation 900–1,450 m).

Fazenda Jacaré-Riachão (18°39'S, 45°02'W), Felixlândia municipality: a *Eucalyptus* plantation that also comprises natural areas of *cerrado*, *campo cerrado*, *vereda* (palm groves in swampy areas), and gallery forests.

Ilha do Boi (18°31'S, 45°29'W), Três Marias municipality: a small island in Três Marias dam lake in the rio São Francisco, with *cerrado* vegetation (elevation *c.*580 m).

Chapada, Parque Estadual do Rio Preto (18°14'S, 43°19'W), São Gonçalo do Rio Preto municipality: a high-altitude area (elevation 1,500–1,750 m) located within a state park. Chapada comprises *campos rupestres*, open grasslands, marshes and patches of montane forest.

Mata do Isidoro (18°10'S, 43°17'W), Felício dos Santos municipality: a semi-deciduous montane forest with patches of rupestrian savanna (*cerrado rupestre*) and *campos rupestres* (elevation 800–1,300 m).

Mendanha (18°06'S, 43°30'W), Diamantina municipality: a patch of secondary semi-deciduous forest in the surroundings of the village of Mendanha.

Santa Joana (18°02'S, 42°50'W), Itamarandiba municipality: fragments of secondary semi-deciduous forests.

Rio Santa Catarina (17°59'S, 46°49'W), Vazante municipality: a tributary of the rio Paracatu, which flows to the middle rio São Francisco. Field work was conducted in a patch of gallery forest along this river.

Fazenda Campo Alegre (17°54'S, 46°02'W), João Pinheiro municipality: a *Eucalyptus* plantation of *c.*8,000 ha surrounded by natural areas of *cerrado*, *campo cerrado*, *vereda*, and gallery forests (elevation *c.*530 m).

Serra do Cabral (17°35'S, 44°27'W), Joaquim Felício municipality: a mosaic of *campos rupestres*, *cerrado* and gallery forests.

Fazenda Bom Sucesso (17°35'S, 46°36'W), Vazante municipality: a large area of *c.*30,000 ha of *cerrado*, gallery forests and some *veredas* along the rio Escuro, on the left bank of the rio Paracatu (elevation *c.*540 m).

Campo Limpo (17°12'S, 42°51'W), Turmalina municipality: a patch of secondary semi-deciduous montane forest located at Chapada de São Domingos, a plateau between the rio Jequitinhonha and rio Araçuaí (elevation *c.*850 m).

Fazenda do Senhor Onofre Sandinha (17°08'S, 42°44'W), Leme do Prado municipality: a large fragment of semi-deciduous montane forest adjacent to the Estação Ecológica de Acauã, also located in the Chapada de São Domingos (elevation *c.*800 m).

Fazenda Brejão (17°00'S, 45°54'W), Brasilândia municipality: a large area of *c.*35,000 ha of *cerrado*, gallery forests and *veredas*, on the left bank of the rio Paracatu (elevation *c.*450 m).

Catutiba (16°49'S, 42°38'W), José Gonçalves de Minas municipality: a small fragment of semi-deciduous montane forest at Chapada de São Domingos (elevation *c.*800 m).

Mata do Lobo (16°47'S, 43°01'W), Botumirim municipality: a large fragment of semi-deciduous forest on the east slope of the central Espinhaço range (elevation 700–800 m).

Fazenda São Miguel (16°43'S, 42°41'W), Cristália municipality: a 5-ha fragment of semi-deciduous forest (elevation *c.*500 m).

Sítio Duboca (16°43'S, 43°53'W), Montes Claros municipality: a limestone outcrop with dry forests and gallery forests in deep valleys (*grotas*), located in the surroundings of the town of Montes Claros.

Rio do Cedro (16°40'S, 43°54'W), Montes Claros municipality: a patch of gallery forest along the rio do Cedro surrounded by dry forests on limestone outcrops.

Porto Mandacaru (16°41'S, 42°30'W), Grão Mogol municipality: an area of scrub and secondary *caatinga* woodland located on the left bank of the rio Jequitinhonha.

Ribeirão Congonhas (16°41'S, 43°19'W), Grão Mogol municipality: a mosaic of *cerrado*, gallery forests and semi-deciduous forests.

Santa Marta (16°37'S, 43°18'W), Grão Mogol municipality: areas of *cerrado* and gallery forests.

Fazenda Maria das Neves (16°36'S, 42°49'W), Grão Mogol municipality: a small patch of semi-deciduous forest on the left bank of the rio Itacambiruçu.

Fazenda Travessia (16°34'S, 43°32'W), Francisco Sá municipality: fragments of arboreal *caatinga* interspersed with pastures.

Sítio Recanto (16°33'S, 43°24'W), Grão Mogol municipality: an area of typical *cerrado*, *cerrado rupestre*, *campo rupestre* and riparian forests (elevation 950–1,000 m).

Francisco Sá (16°28'S, 43°30'S), Francisco Sá municipality: urban area and adjacent *caatinga* woodland (elevation *c.*660 m).

Chapada do Catuni (16°27'S, 43°24'W), Francisco Sá and Grão Mogol municipalities: a sector of the Espinhaço range that represents a watershed between the hydrographical basins of the rios São Francisco and Jequitinhonha (elevation 950–1,100 m). The site is located on the same plateau as Sítio Recanto. Typical vegetation is *cerrado* and *cerrado rupestre*.

Fazenda Imburana (16°23'S, 43°24'W), Francisco Sá municipality: a large fragment of arboreal *caatinga* on the west slope of the Chapada do Catuni (elevation 650–900 m).

Fazenda Baixa da Lasca (16°22'S, 43°33'W), Francisco Sá municipality: small- to medium-sized fragments of arboreal *caatinga* and pastures (elevation *c.*660 m).

Rio Bananal (16°10'S, 42°17'W), Salinas municipality: pastures and *caatinga* scrub in the surroundings of the city of Salinas.

Fazenda Suçuapara (16°07'S, 44°09'W), Patis municipality: a small patch of damp forest surrounded by pastures and coffee plantations.

Campus Avançado de Janaúba (15°49'S, 43°16'W), Janaúba municipality: an area of arboreal *caatinga* and *caatinga* scrub, traversed by the rio Gorutuba.

Coordinates for a number of other localities mentioned in the text are largely taken from Paynter & Traylor (1991), supplemented through reference to an online database (www.nima.mil/gns/html/cntry_files.html). Bird species were identified using binoculars, telescopes and by their vocalisations. Tape-recordings were made with Sony TCM-5000 EV and Marantz PMD201 tape-recorders and Sennheiser ME-66 microphones. Copies of vocalisations have been deposited at the Arquivo Sonoro Prof. Elias Coelho (ASEC), Departamento de Zoologia, Universidade Federal do Rio de Janeiro, Rio de Janeiro. Specimens were collected using mist-nets

and shotguns. Specimens are deposited at the Coleção Ornitológica do Departamento de Zoologia da Universidade Federal de Minas Gerais (DZUFMG) in Belo Horizonte, Minas Gerais, at the Museu de História Natural de Taubaté (MHNT), Taubaté, São Paulo, and at the Museu de Zoologia da Universidade de São Paulo (MZUSP), São Paulo. Some specimens were compared to those already housed at DZUFMG and MZUSP. Systematic order and nomenclature follow those of the Brazilian Ornithological Records Committee (Comitê Brasileiro de Registros Ornitológicos 2005), with any departures from this explained in the species accounts.

Species accounts

BLACK-AND-WHITE HAWK-EAGLE *Spizaetus melanoleucus*
An adult was observed at close quarters for several minutes close to the entrance of Parque Nacional Cavernas do Peruaçu, on 7 September 2005 (GMK, R. Schaefer; for a description of this locality see Kirwan *et al.* 2004). This is one of the very few records of this generally uncommon species from Minas Gerais, and is from a locality where both Ornate Hawk-eagle *Spizaetus ornatus* and Black Hawk-eagle *S. tyrannus* are also known (Kirwan *et al.* 2001, 2004). We follow Helbig *et al.* (2005) in subsuming the genus *Spizastur*, which is usually reserved for this species, within *Spizaetus*.

WHITE-BROWED GUAN *Penelope jacucaca*
Previously known from just two localities in Minas Gerais (Kirwan *et al.* 2001, 2004), GMK & T. Feild observed one in low *caatinga* woodland 15 km west of Lagoa dos Patos (16°97'S, 44°57'W), on 27 October 2004, which becomes the southernmost available locality for this generally uncommon species that is currently classed as Vulnerable (BirdLife International 2004).

OCELLATED CRAKE *Micropygia schomburgkii*
D. Buzzetti *in* Mazar Barnett & Kirwan (1999) tape-recorded this species in Serra da Canastra National Park, in February 1999. GMK has two further records of singing birds in the same national park, close to the area where it was first noted by Buzzetti: on 1 November 2000 and 23 October 2004, on both occasions in relatively close proximity to recently burnt areas (habitat also favoured by other rare species such as Campo Miner *Geositta poeciloptera* [see below] and Ochre-breasted Pipit *Anthus nattereri*). Although mapped for much of the southern part of Brazil by Taylor & van Perlo (1998), available localities for this rare species are, in fact, rather few (BirdLife International 2004), and in some areas within this region *M. schomburgkii* appears to have declined to the point of extinction (Willis 2004; GMK pers. obs.), making the presence of a possibly regular population within the confines of a protected area of some conservation significance. Of interest in this respect is that A. Whittaker, B. Carlos & K. J. Zimmer recorded this crake daily, with high

single-day counts of 10+ at Emas National Park, Goiás, in late-October 2005, suggesting that Emas represents another important stronghold for the species. Currently classified as Least Concern (BirdLife International 2004).

RUFOUS-FACED CRAKE *Laterallus xenopterus*

This poorly known South American crake possesses very few localities (Taylor & van Perlo 1998) with only three records in Brazil: a specimen from Brasília National Park, Distrito Federal, deposited in the Museu Nacional do Rio de Janeiro (MNRJ 32661), sight records in Roncador Biological Reserve and Brasília Zoological Garden, Distrito Federal, and a road-killed bird found at Itirapina, São Paulo, from which locality other records of *Laterallus* crakes plausibly refer to this species (Myers & Hansen 1980, Negret & Teixeira 1984, Collar *et al.* 1992, Oniki & Willis 1996, Sick 1997, Willis & Oniki 2003, Willis 2004). On 24 July 2004 a predominantly brownish-black crake with a whitish belly and dark brown-barred body-sides was captured by MFV and Bárbara Maria in a small-mammal trap set in dense grassland surrounding a *vereda* at Fazenda Jacaré-Riachão. Photographs of this specimen (DZUFMG 4535) were sent to Drs Storrs L. Olson and Barry Taylor who concluded that it was a juvenile *L. xenopterus* based on the following characters: a small crake with a well-developed tail and bill shape and proportions that agree with the genus *Laterallus*; rufous feathers of the incoming adult plumage on the head- and neck-sides; buffy-cream feathers appearing on the lower throat and upper breast (eliminating *L. leucopyrrhus* which has white underparts); and white barring appearing on the upperwing surface. The undertail-coverts are black centrally and barred black and white laterally, thereby recalling the descriptions of *L. xenopterus* by Lowen *et al.* (1996) and Brace *et al.* (1998), but differing from other reports, which mention the vent as being entirely black (Myers & Hansen 1980, Storer 1981). According to BT (pers. comm. 2005), the present bird was in post-natal plumage, as other *Laterallus* are known to present a dark, plain first plumage. An illustrated and more detailed description of this juvenile is in preparation and will be presented elsewhere. This is the first record of *L. xenopterus* in Minas Gerais (see Mattos *et al.* 1993), extending the species' range *c.*460 km to the north-east from Itirapina and *c.*400 km to the south-east from the Distrito Federal.

AZURE GALLINULE *Porphyrio flavirostris*

Remsen & Parker (1990) mentioned two specimens from Minas Gerais, taken at Lagoa Santa, near Belo Horizonte, in September 1839 and April 1866, but we have seen no other published state records. GMK *et al.* observed a single adult at a heavily reed-fringed freshwater lake, with much emergent and floating vegetation, and set in agricultural fields, *c.*30 km north of Piumhí (town centred on 20°28'S, 45°58'W), in western Minas Gerais, on 21 October 2004, closely according with the period predicted by Remsen & Parker (1990) as being most likely to produce sightings beyond the species' usual range.

PEARLY-BREASTED CUCKOO *Coccyzus euleri*
Despite its wide range, this is a rare and little-known cuckoo (Hilty & Brown 1986, Sick 1997). On 15–16 November 2002, one was observed by MFV and SDN at Fazenda do Senhor Onofre Sandinha. On 18 December 2004 another individual was observed and tape-recorded at Fazenda Travessia.

PLAIN-TAILED NIGHTHAWK *Nyctiprogne vielliardi*
A lone individual of this recently described species (Lencioni-Neto 1994) was observed by MFV in flight over the rio Gorutuba, Campus Avançado de Janaúba, at dusk, on 11 April 2002. All known records for this species are from the rio São Francisco Valley (Lencioni-Neto 1994, Kirwan *et al.* 2001, 2004, Whitney *et al.* 2003, Cleere 2004). This record extends the species' range *c.*50 km to the east.

BROAD-TIPPED HERMIT *Anopetia gounellei*
Recently recorded in Minas Gerais by Parrini & Pacheco (1997) in Janaúba municipality. At least three individuals were observed by MFV and SDN in an area of arboreal *caatinga* at Fazenda Imburana on 18 February 2001, 31 March 2002 and 2 September 2002. Two plant species of the Acanthaceae family were observed being visited by this hermit. These are the southernmost records for the species (Parrini & Pacheco 1997, Sick 1997, Hinkelmann 1999). On 23 September 2002, a male (DZUFMG 3520) was collected by MFV in *caatinga* woodland at Campus Avançado de Janaúba whilst visiting flowers of an arboreal species of *Capparis* (Capparaceae). Broad-tipped Hermit is very rare in scientific collections (Hinkelmann 1999), and this appears to represent the first known specimen for Minas Gerais.

SOMBRE HUMMINGBIRD *Aphantochroa cirrochloris*
Several were observed and photographed by SDN in riparian forest at Sítio Duboca, during visits to the area in 2000. Although considered as being endemic to the Atlantic Forest (e.g. Stotz *et al.* 1996), its range also reaches interior Brazil (Sick 1997, Züchner 1999). That our records were made in the transition between *Caatinga* and *Cerrado* reinforces that this species cannot be considered an endemic to the Atlantic Forest. Indeed, *A. cirrochloris* has long been known from the state of Goiás (Pinto 1936) and its presence has also been registered recently at the Estação Ecológica de Águas Emendadas, Distrito Federal (Lopes *et al.* 2005), further emphasising the species' more widespread distribution and habitat preferences.

BLUE-TUFTED STARTHROAT *Heliomaster furcifer*
In Minas Gerais known from only a specimen taken by Natterer at São Domingos (Pelzeln 1871, Pacheco 1998) and from three areas without precise details, namely around Paracatu, Triângulo Mineiro and Serra Negra (Mattos *et al.* 1991a,b). On 7 July 2003 an adult male was observed by SDN visiting flowers of a species of *Calliandra* (Leguminosae) in the city of Francisco Sá. On 9–10 August 2003, a male

was photographed visiting a hummingbird feeder in the same place. This appears to be the second documented record of Blue-tufted Starthroat in Minas Gerais.

CHECKERED WOODPECKER *Picoides mixtus*

This little-known woodpecker has recently been found far to the north of its previously known range (Silveira *et al.* 2001, Beadle *et al.* 2004). It is rare in scientific collections (Silveira *et al.* 2001). On 28 May 1994, MGD observed a male feeding on termites in a *cerrado* area at Ilha do Boi. A female was also observed by MGD, on 19 February 1997, at a gallery forest border beside Rolinho stream, near 'Rancho de Pedra', in Serra da Canastra National Park. This appears to be the only published record for this protected area (Silveira 1998). A male was observed in very heavily degraded *cerrado* near the rio das Velhas, south of Pirapora, on 12 February 2002 (GMK), the only record from this area despite reasonably regular visits during most months of the year. On 29 October 2002, a pair was collected by MFV and SDN in *cerrado* at Sítio Recanto (DZUFMG 3526–3527), being initially attracted by imitating the song of Ferruginous Pygmy-owl *Glaucidium brasilianum*. On 11 November 2002, an additional female was taken by MFV and SDN (MHNT 4556) in *cerrado rupestre* at the same site. The most regular locality for *P. mixtus* in Minas Gerais appears to be the *cerrados* below the Serra do Cipó (pers. obs., K. J. Zimmer & A. Whittaker pers. obs.).

GIANT ANTSHRIKE *Batara cinerea*

Nominate *cinerea* is known from the forests of south-east Brazil, from southern Espírito Santo to northern Rio Grande do Sul, and adjacent north-east Argentina (Ridgely & Tudor 1994, Zimmer & Isler 2003). The northernmost records are from Itacolomi, Minas Gerais (Andrade 1998), Santa Teresa, Espírito Santo (Simon 2000, Willis & Oniki 2002), and the Serra do Caraça, Minas Gerais (Vasconcelos *et al.* 2003c). On 19 May 2004, a male was tape-recorded and collected by MRB, MFV and SDN in *cerrado rupestre* (elevation 965 m) at Mata do Isidoro. The specimen (DZUFMG 4166) was compared to another male (DZUFMG 904) taken on 29 July 1971 at Salesópolis, São Paulo, by E. Dente. No variation in plumage was observed, confirming the new specimen as being also referable to nominate *cinerea*. This record extends the subspecies' range *c.*225 km to the north.

CAATINGA ANTWREN *Herpsilochmus sellowi*

We found this recently described species common in several *caatinga* woodlands and semi-deciduous forests in northern Minas Gerais. Specimens were collected by MFV and SDN at Fazenda Imburana (DZUFMG 3375–3377) on 31 March 2002 and at Fazenda Maria das Neves (DZUFMG 3839) on 7 May 2003. These are the southernmost records for this species (Whitney *et al.* 2000, Kirwan *et al.* 2001, Zimmer & Isler 2003).

NARROW-BILLED ANTWREN *Formicivora iheringi*
Recent records of this Brazilian endemic and globally threatened species have extended its previously known range to the south-west (D'Angelo Neto *et al.* 2001, D'Angelo Neto & Vasconcelos 2004). On 21 May 2004 SDN, MRB and MFV heard the species' typical call in a semi-deciduous forest at Mendanha, thereby extending its range *c.*115 km to the south. On 30 July 2004, JFS observed a male at Fazenda São Miguel within a mixed-species flock containing Planalto Slaty-antshrike *Thamnophilus pelzelni*, Black-capped Antwren *Herpsilochmus atricapillus*, Tropical Gnatcatcher *Polioptila plumbea* and Golden-crowned Warbler *Basileuterus culicivorus*. Additional specimens were obtained by MFV at Fazenda do Senhor Onofre Sandinha (DZUFMG 4018–4019, MHNT 4557), Campo Limpo (DZUFMG 3873) and Catutiba (DZUFMG 3865).

WHITE-SHOULDERED FIRE-EYE *Pyriglena leucoptera*
A typical and widespread species of the Atlantic Forest of south-east Brazil and adjacent eastern Paraguay and north-east Argentina (Ridgely & Tudor 1994, Sick 1997, Zimmer & Isler 2003). On 3 July 2003 a male was tape-recorded by MFV in a gallery forest along the rio Santa Catarina. Next day, it was tape-recorded and attracted to playback at the same site. This is the second locality for White-shouldered Fire-eye in the *Cerrado*, the first being Lagoa Santa, Minas Gerais (Reinhardt 1870, Silva 1995, Christiansen & Pitter 1997). Nevertheless, Lagoa Santa is located in the transition zone between the *Cerrado* and Atlantic Forest (see Christiansen & Pitter 1997), whereas the present record is from within the *Cerrado* proper and extends the species' range to interior Brazil. The dispersal of many Atlantic Forest taxa, including birds, into the *Cerrado* is purported to occur via gallery forests (Redford & Fonseca 1986, Vielliard 1990, Silva 1996, Oliveira-Filho & Ratter 1995, 2000, Silva & Vielliard 2000), which hypothesis might also explain the occurrence of White-shouldered Fire-eye in north-west Minas Gerais. The species occurs in small gallery forests surrounded by *cerrado* near Serra da Canastra National Park (GMK pers. obs., A. Whittaker & K. J. Zimmer pers. obs.).

WHITE-BROWED ANTPITTA *Hylopezus ochroleucus*
Common in the *Caatinga* and semi-deciduous forests of northern Minas Gerais. Specimens were obtained by MFV and SDN from Fazenda Baixa da Lasca (DZUFMG 2776, 3439, MHNT 4486), Mata do Lobo (DZUFMG 3324) and Fazenda Maria das Neves (DZUFMG 3840). These are the southernmost known records of the species (Ridgely & Tudor 1994, Whitney *et al.* 1995, Kirwan *et al.* 2001, Krabbe & Schulenberg 2003).

CRYPTIC ANTTHRUSH *Chamaeza meruloides*
On 25 February 2005, one was tape-recorded by SDN in a forest fragment at Santa Joana. This appears to be the most interior record of this Atlantic Forest endemic in Minas Gerais state (Ridgely & Tudor 1994, Krabbe & Schulenberg 2003).

CAMPO MINER *Geositta poeciloptera*

Our available knowledge of this rather poorly known and possibly at risk species was most recently summarised by Remsen (2003). During regular visits to Serra da Canastra National Park since 1995, GMK has not infrequently found this species, most usually in October. *Geositta poeciloptera* is often abundant there, if present at all. Available breeding data for this taxon are very few, with three nests, all in September, being the only published data (Remsen 2003). GMK has observed the species in display-flights on many occasions in October, and in October 2004 even observed a bird apparently holding territory in agricultural grassy areas surrounding a tiny patch (just a few square metres) of modified *campo*, beside the road to São Roque de Minas (20°20'S, 46°23'W). Given that Remsen (2003) postulated that agriculturalisation posed a long-term threat to the species, the latter observation is potentially significant. We have also frequently noted the species' apparently strong attachment to very recently burnt areas, as has been well documented in the literature, and we have watched birds unconcernedly continue to feed as little as few metres from observers (although the species can also be very wary), 'hammering' and digging in the ground for food, extracting up to *c.*5 cm-long larvae from the scorched earth, and continually making short, rapid, but certainly not furtive movements. Once they commence to regenerate, such recently burnt areas are rich in herbivorous insects, particularly grasshoppers. A. Whittaker & K. J. Zimmer (pers. obs.) noted that flush counts of grasshoppers at such sites in Canastra, in September 2001, were remarkably high, and birds at the burns, including Campo Miners, seemed to concentrating on the temporarily most abundant prey. Whereas both White-rumped *Xolmis velatus* and Grey Monjitas *X. cinereus* pounced on grasshoppers from above, the miners flutter-pursued grasshoppers that they flushed from the ground. Apparently, when conditions are optimal at regenerating burns, the resulting flush of insects provides a super resource for any insectivorous bird whose physiology and breeding system permits them to be sufficiently opportunistic to exploit such ephemeral conditions. Occasionally, Campo Miner may tread the same tiny area of ground rapidly for a few seconds, as if trying to disturb potential prey, although they were not noted to feed directly as a result of such activity. Birds also reach up, stretching the neck to the full extent, to extract small insects from grasses and plants, and also inspecting seedheads in this way. Such behaviour is somewhat reminiscent of that in some Old World pipits and wagtails. Whilst feeding, *G. poeciloptera* continually bobs the rear part of the body and tail, the latter actually just touching the ground during *c.*30% of such movements.

CHOTOY SPINETAIL *Schoeniophylax phryganophilus*

The subspecies *S. p. petersi* is known from along the rio São Francisco Valley, between northern Minas Gerais and central Bahia (Willis & Oniki 1991, Ridgely & Tudor 1994, Kirwan *et al.* 2001, 2004, Remsen 2003). Nevertheless, its validity requires confirmation (see discussion in Remsen 2003 and Kirwan *et al.* 2004) and will be the subject of a future communication (Vasconcelos & Kirwan in prep.).

Specimens were collected by MFV and SDN at Fazenda Baixa da Lasca (DZUFMG 2842–2844, MHNT 4411) and around the town of Francisco Sá (DZUFMG 3967–3968) in 2000–03, extending the species' range to the west slope of the Espinhaço range. Furthermore, SDN and MFV observed the species in degraded *caatinga* at Porto Mandacaru on 3 July 2001 and at the rio Bananal, on 17 December 2002, extending the range *c.*150 km to the east and constituting the first records in the rio Jequitinhonha Valley. Additional specimens were also obtained by MFV and JFS at Fazenda Jacaré-Riachão (DZUFMG 4202–4205), on 9–10 April 2004. These records extend, by *c.*100 km, the subspecies' range to the south, as the southernmost limit was previously considered to lie between Várzea da Palma and Lassance (Kirwan *et al.* 2004). MGD observed this species in degraded *cerrado* at Fazenda Brejão, in January 1991, 1992 and 1933. On 8 November 1995, he also observed one at the border of a gallery forest near a *vereda* at Fazenda Campo Alegre. These appear to be the westernmost records for the taxon. Other new localities, within the previously known range for the species, include wet grassland beside the rio São Francisco in Pirapora town (17°21'S, 44°56'W), Fazenda Nossa Senhora de Aparecida, Itacarambi (15°05'S, 44°07'W; see Kirwan *et al.* 2001) and the rio das Velhas, south of Pirapora (all GMK).

CINEREOUS-BREASTED SPINETAIL *Synallaxis hypospodia*

Very poorly known in Minas Gerais, where Remsen (2003) mapped it for the north-west of the state, in the São Francisco Valley. We have never found the species there (despite numerous visits) and, indeed, the only documentary evidence of its occurrence there (and the entire state) appears to be those specimens held in MNRJ taken at Brejo Januária, by Snethlage in 1926 (MNRJ 15704, 15706). It was thus rather surprising to discover a pair of the species in dense second-growth bordering a damp *brejo* near Cristiano Otoni (20°83'S, 43°80'W), *c.*100 km south of Belo Horizonte, on 24 August 2004 (GMK *et al.*). The identification was based on the following features in combination: pale rufous crown not quite extending to forehead, pale rufous wing-coverts, long, slightly graduated dull brown tail with no hint of reddish brown, rather pale chin and throat, with traces of dark (blackish) confined to the lower throat, and otherwise well-saturated grey underparts and face, including ear-coverts and lores. Sooty-fronted Spinetail *S. frontalis* has a rufous tail, which also appears rather spikier, whilst Spix's Spinetail *S. spixi* has an entirely rufous cap (including the forecrown) and a more solidly black lower throat. Although no vocalisations were heard which could be directly attributed to the pair of *S. hypospodia*, GMK is very familiar with the voices of both potential confusion species, neither of which were heard at this site during the *c.*45-minute observation period. This observation extends the species' range by *c.*250 km to the south of the São Francisco Valley.

GREATER THORNBIRD *Phacellodomus ruber*
Not mapped south of the São Francisco Valley in Minas Gerais by Remsen (2003), but we are aware of the following localities for the species: Uberlândia (DZUFMG 798–800), Uberaba (tape-recordings in 2002), Fazenda Jacaré-Riachão (DZUFMG 4232, 4403), and Sítio Recanto (DZUFMG 3532, MHNT 4554). A record from the Lavras region, in southern Minas Gerais (Vasconcelos *et al.* 2002a) has subsequently been withdrawn (Vasconcelos & D'Angelo Neto 2005). However, on 24 August 2004, GMK *et al.* found a pair of this species collecting nesting material in gallery woodland close to a marsh near Cristiano Otoni (for coordinates see previous species), *c.*100 km south of Belo Horizonte, thereby suggesting that the species does, at least locally, reach the southern half of the state.

POINT-TAILED PALMCREEPER *Berlepschia rikeri*
This furnariid is restricted to *veredas* and other palm groves, especially those with *Mauritia flexuosa*. It ranges from Venezuela and Colombia south to Bolivia and north-central Brazil (Ridgely & Tudor 1994, Sick 1997, Remsen 2003). The southernmost published record appears to be from the Estação Ecológica de Águas Emendadas, Distrito Federal (Bagno 1998, Bagno & Marinho-Filho 2001). On June 1993, MGD observed one foraging in a *Mauritia* palm at a *vereda* in Fazenda Bom Sucesso. This is the first record of the species in Minas Gerais (Mattos *et al.* 1993), a range extension of *c.*170 km, and the southernmost known record.

RUSSET-MANTLED FOLIAGE-GLEANER *Syndactyla dimidiata*
This *Cerrado* endemic (Silva 1995, Silva & Vielliard 2000) is distributed in central Brazil and north-east Paraguay (Ridgely & Tudor 1994, Remsen 2003). There are apparently no published records from the east bank of the rio São Francisco (Ridgely & Tudor 1994, Remsen 2003). Robbins & Zimmer (2005) provided a relatively complete list of specimen localities. On 8 October 1996, one was observed by SDN foraging in the understorey of a gallery forest at Chapada do Catuni. On 9 July 2000, a pair was observed foraging with a mixed-species flock in the mid strata of a gallery forest at Santa Marta. Further, on 21 May 2004, MRB, SDN, MFV and R. B. Lopes observed and tape-recorded one in semi-deciduous forest at Mendanha. These records demonstrate that the eastern boundaries of the species' range are not confined by the west bank of the rio São Francisco, or by the west slope of the Espinhaço range. We follow Robbins & Zimmer (2005) in transferring this species to *Syndactyla* from *Philydor*.

GREAT XENOPS *Megaxenops parnaguae*
One responding to playback at the ecotone between low *caatinga* woodland and wooded *cerrado*, *c.*15 km west of Lagoa dos Patos, on 11 August 2005 (GMK *et al.*). Previously considered largely endemic to the *Caatinga* (e.g. Ridgely & Tudor 1994), this species has since been found at a number of localities within the *Cerrado* region, e.g. at Paracatu and Buritis (both in Minas Gerais), and at Brasília (Distrito

Federal). *Megaxenops* appears far from rare in northern parts of Minas Gerais with suitable habitat, and we have it found reasonably common even in heavily degraded and disturbed *caatingas*, e.g. beside main roads, as well as, unsurprisingly, in extensive areas of suitable habitat, such as on the east bank of the rio São Francisco between Mocambinho and Espinaço, on the north-west flank of the Serra do Espinhaço. Given its former status as 'rare' (Ridgely & Tudor 1994) and ongoing deforestation within the *Caatinga* (cf. *O Globo Revista*, 19 September 2004), the species' presence within the recently declared Parque Nacional Cavernas do Peruaçu, one of the relatively few protected areas known to harbour the species, is noteworthy (Remsen 2003).

STRIPE-NECKED TODY-TYRANT *Hemitriccus striaticollis*
Poorly known in Minas Gerais, where principally recorded in the São Francisco Valley (Kirwan *et al.* 2001, 2004), although not mapped for this region by Clock (2004). Recently discovered by GMK *et al.* in low-stature (*c.*6-m tall) dry forest along creeks north of São José de Almeida (18°40'S, 43°59'W), north-east of Belo Horizonte, in late-August and late-October 2004, a range extension of *c.*230 km southwards. In our experience, this species often appears to be found in close proximity to watercourses, but not specifically in gallery woodland, merely in woodland through which small creeks or even broader rivers may be running. This association does not appear to have been mentioned in the mainstream literature (e.g. Ridgely & Tudor 1994, Clock 2004).

CHAPADA FLYCATCHER *Suiriri islerorum*
Recently described and virtually endemic to Brazil (Zimmer *et al.* 2001), available knowledge was summarised by Robbins (2004) and subsequently augmented by Lopes (2005) and Lopes & Marini (2005), who in particular drew attention to some previously overlooked museum specimens, including two from Minas Gerais, taken by H. F. Berla at Lagoa Santa, just north of Belo Horizonte. There are additional specimens of *islerorum* from the same locality that have not previously been mentioned in the literature, namely the following in the Zoological Museum, University of Copenhagen (ZMUC): a female in worn plumage taken 8 November 1835 by P. W. Lund (ZMUC 80261), a male in fresh plumage collected 11 March 1836 by P. W. Lund (ZMUC 80264), and a female in The Natural History Museum (NHM; Tring) taken on 13 July 1847 (NHM 1888.1.13.639). There is also another male in worn plumage (ZMUC 80263), from Paracatu, Minas Gerais (17°13'S, 46°52'W), on the rio Paracatu, near the border with Goiás, taken on 6 September 1834, again by P. W. Lund, who also seems to have collected a male *Suiriri affinis* at the same locality on the same day (ZMUC 80262), making this one of the few known localities where these two species apparently occur in sympatry. During field work in the Lagoa Santa region (town centred on 19°38'S, 43°53'W) in late-August 2004, GMK relocated *S. islerorum* by virtue of its distinctive dawn song accompanied by wing-lifting display, in rather modified *cerrado* a few kilometres

north-east of the same town, confirming the species' continued presence in the state, which thus marks the easternmost extremity of its range. There is much suitable, wooded *cerrado* habitat for both *S. islerorum* and *S. affinis* (which is also present in this region), from approximately immediately west of Lagoa Santa town, at the junction of the MG-424 and MG-010 to *c.*5 km north-east of São José de Almeida, along the MG-010, and, although infrastructural development, particularly residential construction (including second homes and holiday accommodation), in the area continues moderately apace, away from roads both species are probably still common. Additional, recently discovered, localities for the species in Minas Gerais, are Fazenda São Bento, west of Patís (town centred on 16°07'S, 44°08'W), and lightly wooded *cerrado* west of Lagoa dos Patos (16°97'S, 44°57'W). At the second-named locality *Suiriri affinis* is also present and the two species seem to frequently occur side-by-side, at least in late winter (August–September) (GMK pers. obs.). However, relatively nearby, south of Pirapora, we have only encountered *S. affinis*. Nonetheless, we suspect *S. islerorum* is a common constituent of the better-wooded *cerrados* of northern Minas Gerais.

RUFOUS-SIDED PYGMY-TYRANT *Euscarthmus rufomarginatus*
Recently discovered at Chapada do Catuni (D'Angelo Neto & Queiroz 2001), the species is rare in scientific collections. On 28 May 2003 a male (DZUFMG 3820) was tape-recorded and collected by MFV and SDN in *cerrado* at Sítio Recanto, near Chapada do Catuni.

MINAS GERAIS TYRANNULET *Phylloscartes roquettei*
This globally threatened species (BirdLife International 2000, 2004) is known from a handful of recent localities in northern Minas Gerais (Kirwan *et al.* 2001, 2004, Raposo *et al.* 2002, Fitzpatrick 2004). A previously unpublished record belongs to J. F. Pacheco, who with R. Ribon, observed and tape-recorded *P. roquettei* at the Projeto Jaíba, Mocambinho (*c.*15°05'S, 44°00'W), on 18 September 1996. The recording has been confirmed as belonging to this species by R. Parrini and B. M. Whitney. Mocambinho becomes the northernmost locality known to date, and raises the possibility that the species might be located in contiguous, similar suitable habitat in south-west Bahia. More recently, on 25 July 2000, three were observed by SDN foraging in the canopy of a dry forest on a limestone outcrop at Sítio Duboca. On 15 August 2000 and 21 April 2005, more were observed and tape-recorded by SDN at the same site. This is the sixth known locality for *P. roquettei*. It might also be remarked that the regular territory south of Pirapora, centred on the Córrego dos Ovos (see Raposo *et al.* 2002), continues to be occupied and, on 4 September 2005, the pair had a partially built nest, constructed on perhaps the same branch as that in October 2002 (Kirwan *et al.* 2004), close to a prominent termitarium and also in near proximity to a nest under construction of Yellow-breasted Flycatcher *Tolmomyias flaviventris*, suggesting strong nest-site fidelity, although it might also be remarked that suitable habitat for *P. roquettei* is rather limited in this area.

CAATINGA BLACK-TYRANT *Knipolegus franciscanus*
Though not generally regarded as a species (Ridgely & Tudor 1994, Scholes 2004), *franciscanus* is an interesting, highly disjunct and poorly known taxon. Available information on its life history traits are extremely few and, indeed, are not often specifically elucidated given the decision of many commentators to maintain *franciscanus* as a form of *K. aterrimus*, prompting us to comment on its winter behaviour and feeding strategies here, based on observations by GMK in August–September 2005. At this season, in contrast to the austral summer, *franciscanus* seems much less tied to limestone rocky outcrops, being sometimes found many kilometres from such microhabitat. In winter, male *fransciscanus* is a regular component of canopy and mid-level flocks which typically also include Olivaceous Woodcreeper *Sittasomus griseicapillus reiseri*, Wagler's Woodcreeper *Lepidocolaptes wagleri*, Streaked Xenops *Xenops rutilans*, Yellow-breasted Flycatcher *Tolmomyias flaviventris*, Ash-throated Casiornis *Casiornis fuscus*, Tropical Gnatcatcher *Polioptila plumbea*, Rufous-browed Peppershrike *Cyclarhis gujanensis*, Chestnut-vented Conebill *Conirostrum speciosum*, Hooded Tanager *Nemosia pileata* and, more occasionally, Reiser's Tyrannulet *Phyllomyias reiseri* (e.g. at Fazenda Nossa Senhora de Aparecida, Itacarambi). Females, in contrast, are apparently much more solitary and were never found within mixed-species flocks at this season, and were usually noted within 2 m of the ground, rather than in the crown of canopy trees. They perched quietly in the lower branches or undergrowth of dry forests or second-growth *caatingas*, hunting from more concealed perches, 1.0–2.5 m up (males were typically very bold and obvious at this season, sallying from exposed, high perches). Females were also more frequently noted away from tall semi-deciduous forest than males, and even descending to the ground to take unidentified insect prey. Both sexes performed sally-gleans usually to bark surfaces, but also to leaves, although there were relatively few leaves on the trees at this season.

RUFOUS CASIORNIS *Casiornis rufus* /
ASH-THROATED CASIORNIS *C. fuscus*
Snow (1973) opined that *Casiornis fuscus* might prove conspecific with *C. rufus* (speculation thereafter repeated by most subsequent commentators on this genus) based on the availability of 'intermediates', although the provenance or whereabouts of such specimens with mixed characters was not stated. Unfortunately, D. W. Snow (*in litt.* 2005) reports that his notes from this period are now lost, but recalls that he examined specimens in Rio de Janeiro, São Paulo, Belém, New York, Cornell, Washington and Philadelphia at this time. Snow (1973) also pointed to the largely allopatric ranges of *C. fuscus* and *rufus*, but subsequent field work has demonstrated the two to be slightly more widely sympatric, but probably largely syntopic at least when breeding, than previously known (see below). Various characters are useful in separating typical individuals of *C. fuscus* from *C. rufus*, amongst them the browner back, greyer upper breast and slightly

yellower belly of the former (Farnsworth & Langham 2004), and, as noted by Ridgely & Tudor (1994), the dusky wings, broadly fringed rufous to buff, of *fuscus*, a feature which in our experience is especially noticeable on the tertials. However, in early-August 2005, GMK encountered at least two *C. rufus* at the rio das Velhas, south of Pirapora, which displayed a tertial pattern inclining to that of *fuscus*, but in all other respects were morphologically classic of *rufus*. Furthermore, these individuals, like the several other, obvious examples of *rufus* present at the same site (where it seems to be a breeding resident, somewhat north-east of the range mapped by Ridgely & Tudor 1994 and Farnsworth & Langham 2004), all perched lower than 2 m in the trees, whereas *fuscus* is, in our experience in this general region, restricted to much taller woodland where it typically perches in the mid storey to canopy, not in the lower growth. (In other areas, e.g. in north-east Amazonia during the non-breeding season, such distinctions in foraging height and habitat use may not be consistent.)

The Museu Nacional do Rio de Janeiro has 17 specimens of *fuscus* (of which three are males, nine females and the rest unsexed) from Maranhão (3), Ceará (2), Pernambuco (1), Bahia (1), Goiás (2), Minas Gerais (2) and Mato Grosso (3, all from Jacaré, on the upper rio Xingu, in June–August), as well as 19 *rufus* (11 males, four females, the others unsexed) from Mato Grosso (9), Minas Gerais (1) and Goiás (7). (Two *rufus* and three *fuscus* lack locality data.) Two *rufus*, e.g. a male from Planaltino, Goiás (MNRJ 6013), taken in June, show slight dark tertial centres (especially the innermost) but are, in all other respects, 'normal', and the level of contrast in the tertial pattern is far less striking than in any *fuscus* held in the same collection. The same is true of seven specimens (of a total of 44 *rufus*) with some dark on the tertials in the Field Museum of Natural History (FMNH), Chicago, none of which is from any potential zone of overlap. Whether such individuals might be considered 'intermediates' demands further investigation (though we have never found *C. fuscus* at the site south of Pirapora), as it seems highly possible that such birds merely represent an extreme of individual variation or a previously undescribed, presumably age- rather than sex-related, plumage of *rufus*, although it should be added that most species at Pirapora were patently not breeding at this season. Furthermore, between 21 September and 1 October 1993, José Maria Cardoso da Silva, Dionísio Pimentel Neto and J. Ribeiro collected both species of *Casiornis* at Fazenda Cipasa (13°35'S, 46°49'W), São Domingos, Goiás state, in central Brazil. These specimens are housed at Museu Paraense Emílio Goeldi (MPEG), in Belém, Pará, and comprise three *C. fuscus* (MPEG 51193–51195) and five *C. rufus* (MPEG 51196–51200). MFV compared this material with specimens from other regions already housed at the MPEG, but found no evidence of mixed characters in the plumage of the two species. There are 14 specimens of *rufus* in the Natural History Museum (Tring), all from Argentina, Paraguay and Brazil (labelled Mato Grosso and Goiás), but none of these shows any evidence of intergradation. This is also true of the 13 specimens of *rufus*, from Argentina, Brazil and Paraguay, in the National Museum of Natural History (NMNH), Washington DC. Luís Fábio

Silveira (*in litt.* 2006) confirms that none of those specimens held at MZUSP can be considered 'intermediate'. We have not examined *Casiornis* material at any of the museums in the USA visited by Snow, but as Ridgely & Tudor (1994) and subsequent North American authors have found no evidence of such intergradation, it seems reasonable to assume that no birds with mixed characters are present in the four USA institutions mentioned above.

In addition to our noting (above) that Rufous Casiornis is present in the lower São Francisco Valley in the breeding season, outside the usually mapped range, it seems worthwhile to clarify some other statements that have entered the more popular literature. In January 1999, MFV and José Maria Cardoso da Silva collected *Casiornis rufus* in the savannas of Monte Alegre, Pará, in northern Brazil, in which region it was also encountered by Snethlage (1914) and also collected, at Lago Grande in August 1920, by W. Garbe (Pinto 1944). In Ridgely & Tudor (1994), the only known site north of the Amazon is erroneously listed as 'Porto' Alegre, and in Farnsworth & Langham (2004) the map copies the former work but the text also lists *C. rufus* for 'S Amapá' (where it has been recorded once recently, at the interface between a gallery forest and cerrado, between Macapá and Porto Grande, on 12 February 1999; K. J. Zimmer *in litt.* 2006, Whittaker 2004). It should further be remarked that the presence of *C. rufus* in southern Pará in January suggests to us the presence of a breeding population well north of its currently ascribed range, rather than austral migrants, which these were 'relegated' by Ridgely & Tudor (1994) and Farnsworth & Langham (2004). During a brief visit to the *lavrados* (see Silveira *et al.* 2005) of Monte Alegre, in December 2005, GMK failed to locate *C. rufus* but noted that the vast majority of Tyrannidae encountered in this region were breeding (either in courtship or nest building) at this time. Bolivian specimens of *rufus* in FMNH included males with enlarged testes and females that had recently laid in late November and early December; Scholes (2004) states that breeding dates are unpublished.

Virtually nothing is known concerning the diet and feeding behaviour of *Casiornis fuscus*, beyond that it 'probably sallies for insects' (Farnsworth & Langham 2004). In the austral winter of 2005, GMK made a number of observations concerning food and feeding at several localities in the middle reaches of the São Francisco Valley. At this and sometimes other seasons, *C. fuscus* regularly associates with relatively small (in terms of number of individual birds) mixed-species flocks (the composition of which is described under *Knipolegus franciscanus*). Typically, the species spends some time slowly and methodically scanning its surroundings from a high perch, before making a short upward sally-glean to a bark surface, then a 1.0–1.5-m flight to the next perch, which is usually at the same height or slightly lower than that initially utilised. It usually proved impossible to identify prey items, but once a *c.*4-cm caterpillar was taken, swallowed whole after being beaten *c.*10 times against the bird's perch. Stomach contents for eight *C. fuscus* in MNRJ are thus: solely insects (6), insects and small fruits (1) and solely small fruits (1). The diet and feeding behaviour of *C. rufus* is also very poorly known (Farnsworth &

Langham 2004); we have only observed this species to feed on flying insects, caught during short sallies from low perches, sometimes very close to the ground and in a manner generally not dissimiliar to a *Myiarchus* flycatcher. K. J. Zimmer (*in litt.* 2006) records that, in his experience, *C. rufus* forages from 1 m above the ground to the canopy. In the Pantanal, the species is regularly encountered with mixed-species flocks of insectivores in the understorey of gallery forest, particularly during the middle hours of the day, when it is usually within 3 m of the ground. However, in the early morning, it is regularly found in the canopy and subcanopy, and at forest edges (which latter is also our experience in northern Minas Gerais). At Alta Floresta, where the species seems to occur only in semi-deciduous forest growing in poor soils atop some of the small *serras*, it regularly forages to heights of 10 m+. He agrees that, on average, *C. fuscus* forages higher (probably seldom lower than 5 m above ground), but Zimmer considers *C. rufus* to be more flexible, even adjusting its behaviour during the course of the day as described above. Stomach content data are also available for ten MNRJ specimens as follows: only insects (8), small fruits and insects (1) and fruits and insects (1). Weights of the FMNH specimens of *rufus* vary from 20.2g to 25g, the former lighter than the lower limit given by Scholes (2004)

PURPLE MARTIN *Progne subis*

Although mapped as wintering over a rather extensive area of south-central Brazil by Turner (2004), specific localities for both wintering birds and migrants appear, in fact, to be rather few (Paynter 1995, Sick 1997). The dangers of 'over-mapping' the ranges of Nearctic migrants wintering in the Neotropics were ably demonstrated by Remsen (2001); see also Sand Martin *Riparia riparia* and Cliff Swallow *Petrochelidon pyrrhonota*. GMK encountered an adult male over a residential area near Vespasiano (19°40'S, 43°55'W), just north of Belo Horizonte, on 28 October 2004. On 4 September 2005, two moulting adult males were observed feeding over the rio das Velhas, south of Pirapora, on 6 September 2005, another two males were encountered over the rio São Francisco at Mocambinho (GMK, R. Schaefer; see description of this locality in Kirwan *et al.* 2001) and on 1 March 2006 a male was observed on active migration at the foot of the Serra do Cipó (GMK). Care was taken to separate these birds from the remotely possible Southern Martin *P. elegans*, which in males is much less bright purple-blue than the present species and has a longer and more deeply forked tail.

SAND MARTIN *Riparia riparia*

Mapped as wintering over a rather extensive area of South America by Turner (2004), but specific localities for both wintering birds and migrants in Brazil seem to be rather few (Paynter 1995 maps just 17 localities), and the species is generally rather scarce in the country, with the largest numbers recorded in the Manaus area, Amazonas (Stotz *et al.* 1992). In the south-east of the country, there seems to be rather few records for Rio de Janeiro (J. F. Pacheco *in litt.* 2006) and Willis & Oniki

(2003) map 13 localities for the species in São Paulo state. GMK observed one on active migration at the foot of the Serra do Cipó on 2 March 2006. There seem to be no previously published records for Minas Gerais, but the late N. Carnevalli reported to MFV that he had observed the species in the Triângulo Mineiro, in the west of the state.

CLIFF SWALLOW *Petrochelidon pyrrhonota*

Mapped as wintering over a large area of south-central South America east of the Andes by Turner (2004), but specific localities are relatively few and generally almost entirely within the southern third of the region designated by Turner as the species' winter quarters (Paynter 1995, Sick 1997; see comments concerning such 'over-mapping' under Purple Martin). GMK has observed the species in the Serra da Canastra National Park and adjacent areas on several occasions: *c.*5 feeding over the plateau grasslands close to the source of the rio São Francisco, on 29 September 2002; a large south-eastwards passage involving many hundreds, if not low thousands, of individuals on a broad front, over the grasslands of the plateau, in the late afternoon of 23 October 2004 (when most birds were moving within a few metres of the ground and did not pause to feed), with smaller numbers (<10) noted on both 22 and 24 October in the vicinity of São Roque de Minas, at the foot of the serra; *c.*250 feeding over grasslands in the park with many White-rumped Swallows *Tachycineta leucorrhoa*, Tawny-headed Swallows *Alopochelidon fucata*, Great Dusky Swifts *Cypseloides senex*, White-collared Swifts *Streptoprocne zonaris* and a handful of Barn Swallows *Hirundo rustica* on 12 October 2005; 30+ migrating high over the southern boundary of the park on 4 March 2006, and <10 the following day over the grasslands amongst large flocks of Blue-and-white Swallows *Notiochelidon cyanoleuca*. Despite a lack of previous records from the area (Silveira 1998, 1999), it seems that *P. pyrrhonota* might well be regular and abundant on passage through this region of the state, at least.

Further evidence of dramatic passage through central Brazil comes from Emas National Park, Goiás, where on 25–30 October 2005 K. J. Zimmer, A. Whittaker & B. Carlos recorded a large movement of Cliff Swallows, with a highest (conservative) count of over 2,000 birds on 25 October. The birds were not recorded earlier in the day, but large numbers became conspicuous during impending stormy weather late in the afternoon, when they foraged quite low over the grasslands. The usual pattern was for birds to be much more conspicuous and present in larger numbers late afternoon, although twice the observers noted 200–500 in the early mornings as well. On most occasions, the birds were exceptionally vocal.

GREY-HEADED TANAGER *Eucometis penicillata*

Known in Minas Gerais from 11 published localities, principally in the central-south of the state (Kirwan *et al.* 2004, Rodrigues & Gomes 2004). On 16 January 2004, MFV and JFS observed one in a gallery forest at Fazenda Jacaré-Riachão. MFV and D. Hoffmann tape-recorded and collected a pair (DZUFMG 4225–4226), on 15 July

2004, in the same area. On 2 October 2004, JFS observed two individuals in a gallery forest at Rio do Cedro. On 26 October 2004 and 4 September 2005, GMK and R. Schaefer found the species alongside the rio das Velhas, south of Pirapora, in dry, rather open woodland beside the river (for a description of this locality see Kirwan *et al.* 2004). On the second date, at least one Grey-headed Tanager was observed feeding on or close to the ground, on insects disturbed by ants, along with a variety of other bird species including Squirrel Cuckoo *Piaya cayana*, Rufous-tailed Jacamar *Galbula ruficauda*, Rusty-breasted Nunlet *Nonnula rubecula*, Pale-legged Hornero *Furnarius leucopus*, Henna-capped Foliage-gleaner *Hylocryptus rectirostris*, Great Antshrike *Taraba major*, Fuscous Flycatcher *Cnemotriccus fuscatus*, and four species of *Turdus*. These records mark new sites for this widespread species in the northern half of the state.

CHESTNUT-HEADED TANAGER *Pyrrhocoma ruficeps*

A pair was observed for *c.*10 minutes at close quarters, briefly responding to playback and feeding in the bamboo and other understorey of gallery woodland below the Casca D'Anta waterfall, just within the Serra da Canastra National Park, on 13 August 2005 (GMK *et al.*). The same observer searched the same area for the species, using playback, on 12 October 2005 and 5 March 2006, but was unsuccessful. The status of the species in the park thus remains to be confirmed (whether resident, winter visitor or vagrant), but this is the first record for this locality (Silveira 1998), which marks the northern limit for many Atlantic Forest taxa, and perhaps the northernmost ever (Isler & Isler 1987) for this generally rather uncommon species which seems particularly rare and infrequently recorded in the northern half of its range.

LESSER GRASS-FINCH *Emberizoides ypiranganus*

This cryptic species is distributed in marshy areas through south-east Brazil (in São Paulo to Rio Grande do Sul), and adjacent areas of Argentina and Paraguay (Eisenmann & Short 1982, Ridgely & Tudor 1989). Its northernmost limit appears to be the Campos do Jordão, in the Serra da Mantiqueira, São Paulo, based on a specimen taken by H. Lüderwaldt, on 15 November 1905 (MZUSP 5887). On 16 May 2004, two adult males (DZUFMG 4171–4172) were collected by MFV, MRB, and R. B. Lopes at Chapada, Parque Estadual do Rio Preto (elevation 1,650 m). Both were attracted to playback of a recording of the species on Vielliard (1995). They were in marshy areas near streams, foraging within bushes of *Chusquea nutans* (Poaceae), an endemic bamboo species to the Espinhaço range (Clark 1992). One responded to playback and was tape-recorded. This is the first record of Lesser Grass-finch in Minas Gerais (see Mattos *et al.* 1993), extending the species' range *c.*520 km to the north. The distributional pattern exhibited by *E. ypiranganus* is similar to that of other animals and plants that occur regularly at mid or low elevations in southern Brazil and adjacent areas (south of 23°30'S), but present a patchy distribution at higher altitudes in the mountains of south-east Brazil

(Simpson 1979, Silveira & Cure 1993, Safford 1999, Vasconcelos 2001), suggesting that they dispersed from an austral area to south-east Brazil during one or more glacial epochs. During interglacial periods, with warmer climates, some populations retracted south and others (in the north) were possibly 'trapped' in the mountains. Comparison of the new specimens with a photograph of the entire series of *E. ypiranganus* housed at MZUSP (including the type) failed to reveal any significant morphological variation between northern and southern birds. Further, vocalisations tape-recorded in the field were similar to those given by southern populations.

PALE-THROATED SERRA-FINCH *Embernagra longicauda*

A typical species of eastern Brazilian tablelands, found in the Espinhaço range, as well as the Serra da Mantiqueira, Serra do Caparaó and rio Doce Valley (Machado *et al.* 1998, Vasconcelos 2003, Vasconcelos *et al.* 2003b). On 13 August 2002 one was observed by SDN vocalising intensely within an area of *campo rupestre* at Serra do Cabral. Despite being considered a western portion of the Espinhaço range, the Serra do Cabral is isolated from the main range, and this appears to be the westernmost record of Pale-throated Serra-finch (see map in Vasconcelos *et al.* 2003b).

DARK-THROATED SEEDEATER *Sporophila ruficollis*

This migrant seedeater was recorded by Sick (1997) on islands in the rio São Francisco, in Pirapora municipality. On 13 November 2003, an adult male was observed foraging among grasses in the surroundings of the town of Francisco Sá. This sight record extends the known range of the species *c.*150 km to the east.

BLACK-BELLIED SEEDEATER *Sporophila melanogaster*

A male in heavily worn plumage was encountered in Serra da Canastra National Park, on 5 March 2006 (GMK). Sick (1997) mentioned the species for only three localities in Minas Gerais, but the species has also been recorded in the national park before (Silveira 1998), on two occasions in October (L. F. Silveira pers. comm. 2006). At first sight, a March date might seem surprising in this area, as the species is endemic as a breeder to northern Rio Grande do Sul and southern Santa Catarina (Ridgely & Tudor 1989), and in the former state is present from at least 2 December until 9 March (Belton 1985, although GMK has records from there as late as 12 March); however, there is a February record from the Distrito Federal (Sick 1997), indicating that some return to the non-breeding grounds rather early, perhaps due to breeding failure. The present observation and those of Silveira (1998) are the first for the species from within a protected area in Minas Gerais (Brandt 1998).

SÃO FRANCISCO SPARROW *Arremon franciscanus*

This recently described species (Raposo 1997) has since been found in new localities at Bahia and northern Minas Gerais (Parrini *et al.* 1999, Kirwan *et al.* 2001, 2004, D'Angelo Neto & Vasconcelos 2003). On 10 October 2003 a male was

collected by MFV, SDN and JFS within second-growth *caatinga* in the surroundings of Francisco Sá (MZUSP 76180). This is the eighth available specimen of *A. franciscanus*, and represents the southernmost record of the species (D'Angelo Neto & Vasconcelos 2003, Kirwan *et al.* 2004).

WHITE-STRIPED WARBLER *Basileuterus leucophrys*

This *Cerrado* endemic (Silva 1995, Silva & Vielliard 2000) is known from western Bahia and Minas Gerais to interior Brazil (Ridgely & Tudor 1989, Sick 1997). All published records are from the left bank of the rio São Francisco to the west. On 18 December 1999, GMK, J. Mazar Barnett and J. Minns found at least one of this species singing in tall semi-deciduous forest beside the BR-365 road between Pirapora and Guaicuí (17°12'S, 44°49'W), as well as several Golden-crowned Warblers *B. culicivorus*. A subsequent visit to the area, by GMK, on 26 October 2004, when the same forest was practically devoid of leafy foliage, failed to locate the species. On 18 June 2002, one was tape-recorded and observed by MGD, MFV and SDN in a damp forest at Fazenda Suçuapara. On 13 August 2002, one was heard singing in a gallery forest at Serra do Cabral by SDN. Three pairs were also observed and heard by SDN in gallery forest at Ribeirão Congonhas, on 9 January 2005. Records from Ribeirão Congonhas are the first for the rio Jequitinhonha basin. Further, all of these records extend the species' range to the right bank of the rio São Francisco.

FORBES'S BLACKBIRD *Curaeus forbesi*

Four observed, both perched and in flight, at the border of Parque Nacional Cavernas do Peruaçu, on 7 September 2005, at the ecotone between tall semi-deciduous forest and cultivated fields (GMK, R. Schaefer). For a general description of this area see Kirwan *et al.* (2001). Care was taken to distinguish this rare (globally threatened) species from the much commoner Chopi Blackbird *Gnorimpsar chopi*, which was also observed in the same general area on the same day, using those characters listed in Jaramillo & Burke (1999). Their distinctive fluty flight calls, in comparison to the much duller sounding and less complex calls of *Gnorimpsar chopi*, were clearly heard but could not be tape-recorded. There are two previously published records, one of them unconfirmed, from the middle São Francisco Valley in northern Minas Gerais (Willis & Oniki 1991, Kirwan *et al.* 2004), of this globally threatened and generally rather poorly known species. Additionally, the *C. forbesi* was again recorded at Pirapora, in August 2003, by A. Whittaker & K. J. Zimmer (*in litt.* 2006). Elsewhere, in the centre-east of the state, south of Ipatinga, the species is well known from the Parque Estadual do Rio Doce (*c.*19°30'S, 42°31'W). This discovery, just within the boundaries of the protected area and an Endemic Bird Area (Stattersfield *et al.* 1998), further underlines the conservation importance of this recently delimited national park to the conservation of birds in the *Caatinga* and the imperilled tropical semi-deciduous forests of the São Francisco Valley.

Acknowledgements

We thank Dr Luís Fábio Silveira who kindly sent photographs of the series of *Emberizoides ypiranganus* at MZUSP and also permitted our visits to that collection. Dr Marcos Raposo sent photographs and data concerning the specimen of *Laterallus xenopterus* housed in MNRJ, and Drs Storrs L. Olson and Barry Taylor assisted greatly in the identification of the Minas Gerais bird. Dr José Maria Cardoso da Silva *et al.* collected both species of *Casiornis* in Goiás state and permitted us to mention their records, and Dr Alexandre Aleixo allowed MFV to study the bird collection in MPEG. GMK is grateful for the assistance of Niels Krabbe, who sent digital photographs of *Suiriri* specimens held in the Zoological Museum, University of Copenhagen, and to staff at The Natural History Museum (Tring) and the Museu Nacional (Rio de Janeiro) for access to additional material held in these institutions. GMK received valuable assistance from John Bates and Tom Schulenberg at FMNH, where his studies were supported by a scholarship grant, and from James P. Dean and Christina Gebhard at NMNH. Bárbara Maria, Ricardo B. Lopes, André Nemésio, Diego Hoffmann, Dave Beadle, Chris Collins, Arthur Grosset, Juan Mazar Barnett, Jeremy Minns, Márcio Rodrigues, Rick Schaefer and Tom Feild accompanied us during some field expeditions, and Minns also generously proffered some playback material used by GMK. David Snow, as always, responded helpfully to our request for information concerning *Casiornis* specimens examined by him almost 40 years ago. Furthermore, we thank the Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA) and Instituto Estadual de Florestas (IEF-MG) for permission to collect specimens in Minas Gerais and at Parque Estadual do Rio Preto, respectively. Onofre Sandinha, Gustavo A. V. D'Angelo, José Moreira Júnior and Cláudio Manoel Alves further permitted us to collect specimens on their properties. Dr Marcos Rodrigues (DZUFMG), Dr Luís Fábio Silveira (MZUSP) and Dr Herculano M. F. Alvarenga (MHNT) incorporated our specimens into the collections under their care. Joaquim A. Silva and José G. Santos Neto helped to obtain geographical data for some collecting localities. The following served as referees for this paper: José Fernando Pacheco, Van Remsen and Kevin J. Zimmer. We are particularly grateful to the last-named for granting permission to use several of his unpublished observations, some made in conjunction with Andrew Whittaker and Braulio Carlos. MFV is grateful to CAPES and the Brehm Foundation for financial support during part of this study.

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Mitochondrial DNA sequences support species status for the Indian Spotted Eagle *Aquila hastata*

by Ülo Väli

Received 1 November 2005

The taxonomic status of the Indian Spotted Eagle *Aquila* (*pomarina*) *hastata* has been an issue of dispute. Originally described as a species, *Morphnus hastatus* Lesson, 1834, it was subsequently considered a subspecies of Lesser Spotted Eagle *A. pomarina* C. L. Brehm, 1831. Nominate *A. p. pomarina* breeds mainly in eastern and central Europe, and in the Middle East, and is entirely migratory, whilst *A.* (*p.*) *hastata* is a sedentary form restricted to India. The breeding ranges of the two are separated by thousands of kilometres, preventing any study of the reproductive barrier between them, the most important difference according to the Biological Species Concept. Parry *et al.* (2002) found a number of morphological differences between the two taxa, which led them to propose specific status for *A.* (*p.*) *hastata*. The most striking difference noted was in gape width, smallest in *A. p. pomarina*,

TABLE 1
Sequences used in the current study.

Species	Locality	Accession no. in GenBank	Source
Aquila (*p.*) *hastata*	India	AY987286	Lerner & Mindell (2005)
A. p. pomarina	Germany	AJ604490	Seibold *et al.* (1996)
A. p. pomarina	Estonia	DQ462413	this study
A. clanga	Pakistan	AY987284	Lerner & Mindell (2005)
A. clanga	Estonia	DQ462414	this study
A. c. chrysaetos	Switzerland	AJ604486	Seibold *et al.* (1996)
Ictinaetus malayensis	unknown	AY754056	Bunce *et al.* (2005)
Lophaetus occipitalis	South Africa	AJ604502	Helbig *et al.* (2005a)

TABLE 2
Kimura 2-parameter nucleotide distances (above diagonal) with standard errors (below diagonal) between six eagle taxa according to cytochrome-*b* gene sequences.

	1	2	3	4	5	6
1. *A.* (*p.*) *hastata*		0.036	0.036	0.050	0.053	0.083
2. *A. p. pomarina*	0.006		0.018	0.038	0.050	0.076
3. *A. clanga*	0.006	0.004		0.040	0.051	0.078
4. *I. malayensis*	0.007	0.006	0.007		0.054	0.078
5. *L. occipitalis*	0.008	0.007	0.007	0.008		0.073
6. *A. c. chrysaetos*	0.010	0.009	0.010	0.010	0.009	

intermediate in Greater Spotted Eagle *A. clanga* Pallas, 1811, a closely related but separate species, and largest in *A.* (*p.*) *hastata*.

Genetic analyses

Molecular markers are, in most cases, supposed to reflect a true phylogenetic descent (Avise 1994). The divergence between mitochondrial DNA lineages of *A. clanga* and *A. p. pomarina* suggests these species split *c.*1 MYA (Seibold *et al.* 1996). However, no genetic data for *A.* (*p.*) *hastata* have been available for comparison. Recently, two extensive phylogenetic analyses of eagles have been published, by Helbig *et al.* (2005a) and Lerner & Mindell (2005). Unfortunately, these studies did not analyse jointly *A. p. pomarina* and *A.* (*p.*) *hastata*, and, hence, did not clarify the systematics of the three spotted eagle taxa, although the need for further studies was elucidated by these authors.

I analysed 995 bp of nucleotide sequence from the mitochondrial cytochrome-*b* gene of *A. clanga*, *A. p. pomarina* and *A.* (*p.*) *hastata*, and included also their closest monophyletic relatives, Indian Black Eagle *Ictinaetus malayensis* and Long-crested Eagle *Lophaetus occipitalis* (Helbig *et al.* 2005a, Lerner & Mindell 2005), as well

Figure 1. Phylogenetic maximum parsimony tree of six eagle species based on cytochrome-*b* sequences.

as a more distant member of the genus *Aquila*, *A. chrysaetos*, to the analysis. I used data available in GenBank and sequenced Estonian samples of *A. clanga* and *A. pomarina* to diversify the geographical range of sampled individuals' origin (Table 1). Phylogenetic analysis was made using MEGA version 3.1 (Kumar *et al.* 2004).

Of the 995 nucleotides, 49 were variable amongst the three spotted eagle taxa. According to pairwise Kimura 2-parameter distances, cytochrome-*b* genes of *A. clanga* and *A. p. pomarina* differ by 1.8% (Table 2, see also Seibold *et al.* 1996). *A.* (*p.*) *hastata* differs from both by 3.6%. Comparatively, single nucleotide substitution was found between studied *A. p. pomarina* samples (0.1% difference), and two within *A. clanga* (0.2%). All spotted eagles were clearly separated from the two *Lophaetus* group eagles, and from *A. chrysaetos*. Phylogenetic reconstructions clearly suggest that *A.* (*p.*) *hastata* separated from *A. clanga* and *A. p. pomarina* before their differentiation. The topology of the retrieved phylogenetic tree was the same using different approaches, and bootstrap analysis supported the earlier separation of *A. hastata* by 97% (minimum evolution), 96% (neighbour joining) or 92% (maximum parsimony; Fig. 1).

Taxonomy and conservation

No precise divergence limit to assign species or subspecies rank to avian taxa exists, but usually cytochrome-*b* sequences of subspecies differ by no more than 3% (Helbig 2000), which is less than the divergence between *A. p. pomarina* and *A.* (*p.*) *hastata*. Although phylogenetic trees of single genes do not always reflect species evolution and deeper genetic analyses, based on a wider range of markers and using more individuals, are needed in the future, the analysis of the mitochondrial cytochrome-*b* gene supports those morphological and ecological studies that have distinguished *hastata* specifically (Parry *et al.* 2002), as its difference to other spotted eagles is larger than between those two at this locus. Using the mean supposed evolutionary rate of avian mitochondrial coding DNA, 2% per one million years (Lovette 2004), the split of *A. hastata* could have happened *c.*1.8 MYA.

There is also the question as to whether *A. clanga* and *A. p. pomarina*, which are known to hybridise in the wild and produce fertile offspring (Väli & Lõhmus 2004, Helbig *et al.* 2005b), represent different species. However, in the area of sympatry, the reproductive barrier in taxon level between *A. clanga* and *A. pomarina* persists, and the possible mechanism could be the lower fertility of female hybrids or backcrosses (Helbig *et al.* 2005b), which probably prevents gene-flow even after a breakdown in ecological barriers. Therefore, it is recommended to continue to treat *A. clanga* and *A. pomarina* specifically. These two northern species arose during interglacial periods of the Pleistocene, after diverging from the southern members of the *Lophaetus* group (Helbig *et al.* 2005a), including *A. hastata*, thereby supporting the southerly origin (southern Asia, Africa) of *Lophaetus* eagles.

Obviously, the revised taxonomic status of *A. hastata* should be taken into account in planning further conservation action to protect this highly endangered bird with a world population of probably fewer than 100 pairs (Prakash 1996). The species should be treated separately from *A. pomarina*, which according to the IUCN Red List is of Least Concern (BirdLife International 2004).

Acknowledgements

I thank Hans Ellegren, Anita Gamauf and Frank Hailer for valuable comments on earlier drafts of the manuscript. The author is supported by Estonian Science Foundation grant no. 6050 and by the Swedish Institute within the Visby programme.

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Mandatory changes to the scientific names of three Neotropical birds

José Fernando Pacheco & Bret M. Whitney

Received 27 January 2006

Application of the *International code of zoological nomenclature* (ICZN 1999) requires changing the specific names for Dusky-billed Parrotlet *Forpus sclateri,* Glittering-bellied Emerald *Chlorostilbon aureoventris* and Guianan Toucanet *Selenidera culik.* Art. 23.9 (Reversal of Precedence) clarifies the proper usage of nomenclature in each of the three cases.

Forpus sclateri

Peters (1937) used *Forpus sclateri* (Gray, 1859, type from the río Javari, Peru) as the oldest available name for Dusky-billed Parrotlet. He also introduced the name *F. s. eidos* as a *nomen novum* for *Psittacula modesta* (Cabanis, 1848, type from British Guiana), which he considered a secondary junior homonym of *Psittacula modesta* (Fraser, 1845). Fraser's name applies to the Long-tailed Parakeet *Psittacula longicauda modesta* of Enggano Island, Sumatra, and Cabanis' *modesta* to the genus *Forpus,* Boie, 1858. Thus, these authors independently applied the name *modesta* to different nominal genera (*Psittacula* Cuvier, 1800 [type: *Psittacus alexandri* Linnaeus] and *Psittacula* Illiger, 1811 [type: *Psittacus passerinus* Linnaeus]), obviating homonymy. Because Cabanis' name has been employed as valid since 1899 (e.g. Ihering & Ihering 1907, Snethlage 1914, Cory 1918, Naumburg 1930, Pinto 1938), ***Forpus modestus*** must be considered the valid name for Dusky-billed Parrotlet, with *sclateri* as a subspecies and *eidos* a synonym.

Chlorostilbon aureoventris

As noted by Steullet & Deautier (1946) and Mallet-Rodrigues (2005), Shaw (1812) described *Trochilus lucidus* based on material described informally (not under the

Linnean classification system) by Félix de Azara (1802–05) as the 'Pica-flor mas bello' (no. 293) from Paraguay. Because Shaw's name has been used as valid since 1899 (e.g. Olrog 1963, Cuello 1985), ***Chlorostilbon lucidus*** must be considered the valid name for Glittering-bellied Emerald. The history of Shaw's name may explain in part the late recognition of its correct application. Despite that the Spanish naturalist Azara described only birds occurring in Paraguay and the region of the río de La Plata, where he lived for 20 years (Beddall 1983), Hartert (1892) placed *T. lucidus* Shaw in the synonymy of *Hylocharis* (*Basilinna*) *leucotis* (Vieillot) of Middle and North America. The name *aureoventris* (d'Orbigny & Lafresnaye 1838), type from 'Moxos and Cochabamba, Bolivia,' but considered by all recent authors to range throughout Paraguay, is a synonym.

Selenidera culik

Peters (1948) used the name *Selenidera culik* (Wagler 1827) stating that the older name *Ramphastos piperivorus* (Linnaeus) is 'not identifiable' (footnote p.79). Hellmayr (1907) had pointed out that Linnaeus' original description (1758) and subsequent reference to the name (1764) did not provide sufficient detail to define the species in question. Linnaeus (1766) did, however, provide a diagnostic description with direct reference to *Tucana cajanensis torquata* of Brisson (1760, p.429, pl. 32, fig. 2) and 'The Green Toucan' of Edwards (1764, p.255, pl. 330). ***Selenidera piperivora*** (Linnaeus, 1766) was used by Ihering & Ihering (1907), Hellmayr (1907), Pinto (1938) and Schubart *et al.* (1965), and must be considered the valid name for Guianan Toucanet, with *culik* a synonym. Most recently, Alvarenga (2004) correctly applied the name.

The two most recent editions of the ICZN (1985, 1999) provide different definitions for *nomina oblita* ('forgotten names'). The current edition specifies that the term applies only to available names 'unused since 1899' up to 1 January 2000, whereas the earlier edition specified that an available name must have remained unused for more than 50 years. This change is likely to affect other 'forgotten names' and should be kept in mind as taxonomists strive to maintain the proper nomenclature for birds and other organisms.

Acknowledgements

We thank Steven Gregory and Alan Peterson for their helpful comments on the manuscript.

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Bulletin of the British Ornithologists' Club
ISSN 0007-1595
Edited by Guy M. Kirwan
Volume 126, Number 3, pages 165–244

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Typeset by Alcedo Publishing of Pennsylvania, USA, and printed by Crowes of Norwich, UK